

# MARINE RECORD

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## LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and improve the character of the service rendered to the public.

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## WORLD'S SHIPPING LOSSES.

The shipping of the world aggregates 25,330,000 tons, and according to a return just issued by Lloyds, the ship losses for the past year total 783,508 tons, which gives a ratio of loss of 3 per cent. The total number of vessels lost was 996, so that the average size of the ship was not larger but of the total tonnage 21 per cent. or 210 of 152,340 tons were broken up or condemned so that the vessels which are deleted from the world's list through misadventure represent only 631,000 tons; and when one remembers that the shipbuilding yards of the world are producing tonnage of the most efficient cargo-carrying capacity of about 1,500,000 tons annually, it will be at once recognized that the progressive needs of commerce are being more than kept pace with. The total tonnage withdrawn from service from all causes is very much less than in most preceding years. Thus, against the 783,508 tons of the past year, we have 820,725 tons for 1898; but part of the difference was due to a larger number of vessels being broken up. In 1897 there were still more vessels brought to the scrap heap, 172,010 tons, yet the grand total of losses, etc., was only 726,800 tons, so that the wastage by misadventure was 550,000 tons, or 180,000 tons less than last year. The result in 1896 was practically the same, but in 1895 the total was 806,278 tons, of which 170,849 tons were due to breaking up; so that the past year may be pronounced a fair average, with perhaps a less tendency than usual in favor of voluntary demolition. Wrecks due to stranding, to striking rocks, etc., of course account for the largest proportion, nearly one-half, or 317,149 tons, rather less than in the preceding five years, and about 40 per cent. of the total losses. Vessels posted as "missing" make up an unaccountable large proportion, 101 of 109,966 tons, obviously with few exceptions small craft and equal to 11 per cent. Ships abandoned at sea come next with 60,872 tons, the measurement of 79 vessels. Collisions account for 74 of the losses, making up 58,841 tons, while vessels which had foundered numbered 63, an aggregate of 46,161 tons. Nineteen vessels were burned, the total tonnage being 24,518 tons. The remaining 12,928 tons were lost by means not classified.

CHIEF CONSTRUCTOR PHILIP HICHBORN, U. S. N., has been awarded a diploma and gold medal for the Franklin life buoy, Hichborn turret and models of war vessels exhibited at the Paris exposition. The chief constructor has now an interesting collection of medals and diplomas from national and international expositions.

## CANADIAN LUMBER.

In compelling all holders of stumpage concessions to saw their logs in Canada, the province of Ontario has acted well within its rights, and its action can be defended on moral as well as on commercial grounds. Secretary Gage has been requested by Senators McMillan and Burrows and by Reps. Cramp and Fordney to apply the retaliatory clause of the Dingley law to Canadian lumber, and open up the way to a general war of tariffs between the two countries. The secretary is said to have refused to comply with the demand and to have informed the gentlemen they must apply to Congress for relief. If this is the position that Secretary Gage has taken, the secretary is right.

Many of the men who are demanding that all trade between the United States and Canada shall be disturbed for their benefit favored the \$2 tariff. Senator Burrows himself, who is more responsible for the \$2 schedule than any other member of Congress, is reported to have declared that "the action of the Ontario government in this manner is an infernal outrage," and that it is "just as much matter for diplomatic action as the seizure of American flour in South Africa." If American lumbermen had succeeded in establishing a tariff of \$2 a thousand on lumber, the government of Ontario issued an order providing that owners of Ontario stumpage rights must saw the logs in that province. That made it impossible for certain Michigan mill owners who had cut all their own pine to raft logs from Canada, saw them in the Michigan mills and reap, at the expense of one of the natural resources of Canada, the benefit of a tariff that shut Canadian lumber out of the American market. The action of the Ontario government was rational and reasonable. If Canadian lumbermen were to be deprived of an American market, it was obviously unfair to allow certain Americans who held stumpage rights to raft their logs to the United States, and have free access to a market for their product which was denied to Canadians themselves.

## TRUSTEES CHICAGO DRAINAGE CANAL.

A decision important to vesselmen at all lake ports has been made this week by Judge Chetlain in the circuit court at Chicago. He upholds the \$2,500,000 bonds issue of the drainage canal trustees, and holds that the sanitary board has jurisdiction over the Chicago river as part of the drainage canal.

The decision is of great importance as it will, if sustained by the supreme court, enable the drainage trustees to unite with the city in river improvement. There is little fear but that the judge's ruling will meet with the approval of the supreme court, and in that event vesselmen may hope for an earlier completion of the improvements so necessary in the river, than expected.

The case will be taken to Springfield, an appeal from the decision having been prayed. A final decision is expected to follow soon after in the case, and the drainage trustees will in all likelihood find themselves invested with additional powers.

Marine men will be interested in the outcome of the case, as a favorable result will be followed with a clear field for work in improving the river. A current will be given with a certain speed at all points, and everything possible done to make the interests of the city and the vesselmen harmonize. One of the first important moves will probably be the removal of the center piers and the substitution of bascule bridges. Many of such structures were planned a few months ago, but for various reasons the number was reduced to two or three. The city's appropriation for bridges was cut down so that there will not be much more than enough to pay the repair bills during the coming year.

## STEAMING RECORDS.

The steamship course from Liverpool to New York is about 3,062 nautical miles, while the course from Southampton to New York is 3,080 nautical miles. To show what progress has been made in speed of liners in the last fifteen years we give the following facts: In 1885 the Etruria, of the Cunard Line, made the passage from Liverpool to New York in 6 days, 17 hours, 34 minutes; average speed 19 knots. In 1887, the Umbria, of the same line, made the same distance in 6 days, 15 hours, 28 minutes; average speed 19½ knots. In the same year the Etruria made the trip from New York to Liverpool in 6 days, 13 hours 26 minutes; average speed 19½ knots. A year later the Etruria made the trip from Liverpool to New York 6 days, 13 hours, 26 minutes; average speed 19½ knots. In 1891, the City of Paris, then of the Inman Line, made the same distance in 6 days, 9 hours, 30 minutes; average speed 20 knots. In 1891 the Teutonic, of the White Star Line, from Liverpool to New York in 6 days, 5 hours, 45 minutes; average speed 20½ knots. In 1892 the City of Paris, over the same route, 6 days, 4 hours, 18 minutes; average speed 20.7 knots. In 1893, the Lucania, from Liverpool to New York in 6 days, 2 hours, 11 minutes; average speed 21 knots. In 1894 the same ship, same route, in 5 days, 20 hours, 45 minutes; average speed 21.81 knots. In 1898 the Kaiser Wilhelm der Grosse, from Southampton to New York in 5 days, 17 hours, 43 minutes; average speed 22.29 knots. In 1899, same ship, same route, in 5 days, 14 hours, 17 minutes; average speed 22.86 knots. In 1900, the Oceanic made the run from Liverpool to New York in 6 days, 4 hours, 9 minutes; average speed 20.72 knots. The Deutschland holds six records. First, the voyage from New York to Plymouth, on August 14, the time being 5 days, 11 hours, and 45 minutes. Second, her voyage from Plymouth to New York, July 12, in 5 days, 16 hours, and 46 minutes. Third, her voyage from Cherbourg to New York in 5 days, 12 hours and 29 minutes. Fourth, her best hourly average 22.32 knots recorded for the voyage ended at Plymouth August 14. Fifth, best day's run 584 knots on August 30. Sixth, the best time for a maiden trip made between July 6 and 12. On the last voyage the engines exerted 36,000 horse-power and 600 tons of coal were burned per day.

## COMPASS EXPERIMENTS.

Lieut. Comdr. S. W. B. Diehl, U. S. N., has taken up the work of compass inspection and experiment at the compass department of the Navy Department. The class of work going on in this important department is of the highest value to the Navy itself and in many ways it is of growing importance to the entire seafaring world. The introduction of steel as a shipbuilding material has brought so many problems for the navigator to solve that a well equipped test and experiment department such as that in charge of Lieutenant-Comander Diehl becomes vitally important to all who "go down to the sea in ships."

The information obtained by investigation and carried out by this office is contributed freely to the whole world in the same manner as has been done by every scientific department of the government. The subject of compass deviation and the various defects inherent in the mariner's compass are undergoing investigation here at the hands of electrical experts who are working in conjunction with the similar department of the British Naval authorities. Frequent interchanges of results has been the cause of an increased rate of progress in both countries. The occasional issue of valuable monographs on the status of the compass, with such additional facts and data as have been verified, are eagerly sought by scientists throughout the world.





## DETROIT.

*Special Correspondence to The Marine Record.*

John C. Shaw, Esq., admiralty attorney, said Tuesday that the Sevona-Ishpeming collision case had been settled out of court. The Ishpeming, it will be remembered, was run down and sunk by the steel steamer Sevona, near the head of Belle Isle, Detroit river, last spring and was raised, brought to Detroit and repaired. He was not at liberty, he said, to give out the terms of settlement.

Changes will be made in the steamers State of Ohio and State of New York during the winter, which will increase their speed so that they can be scheduled to make sixteen miles an hour and next year they will take care of the Cleveland, Toledo and Put-in-Bay business. Although the Cleveland & Buffalo Transit Co. owns half of the steamer City of the Straits, she will be chartered for the next season to run between Cleveland and Buffalo.

In five working days from now the wreckers expect to have the Fontana entirely removed from the channel. The work is progressing in good shape, and the southerly winds and warm weather have been a great help. The passing boats continue to hammer away at the lightship over the sunken schooner John Martin. It was torn away Monday and again on Tuesday evening at 10 o'clock. This has become an everyday occurrence, and necessitates large repairs to the scow, cable and anchor.

Judge Swan, in the United States Court, on Wednesday, handed down a decision in the Lansdowne-W. B. Morley collision case, in which he holds the Lansdowne solely to blame for the collision because of the improper arrangement of lights on that steamer. The Lansdowne is a ferry used by the Grand Trunk Railway in transporting its trains across the river at Detroit. The collision occurred early on the morning of August 6, 1899. The Morley was up-bound, with a cargo of coal, and the Lansdowne had just left her slip at Detroit. The Morley sank immediately after the crash, and the ferry went to the bottom while on the way to the shipyard. The case has been bitterly contested by the railroad people, and they caused a counter suit to be filed against the Morley. In the case just decided the owners of the Morley asked for damages amounting to \$45,556, and the expense will be equally divided between the Wabash and the Grand Trunk railways, owners of the Lansdowne.

## CLEVELAND.

*Special Correspondence to The Marine Record.*

The steamer Tampico will leave Huron today for the coast. Mr. Arthur Hawgood who will manage the steamers Eureka and Tampico and who will be located at New York will make the trip with her and attend to her business during the winter months.

Capt. W. A. Collier, general manager of the Great Lakes Towing Co., sent the tug Harvey D. Goulder to the steamer Pawnee and barge Young, which are stranded on Gull Island reef. The steamer will have to lighten most of her cargo before she is released.

The season ore shipments now appear to total only about 19,000,000 tons. A number of vessels will lay up November 1 and some of the iron ore mines are already getting ready to close down owing to a slump in the demand. The majority of charters expire in a week from now and as the cost of insurance increases lots of floating property will be tied up.

The Browning Engineering Co., of this city, devotes its Bulletin No. 500 to the merits of its new steam dock capstans. This capstan has a new form of casing, and the steam cylinders, pipe connections, exhaust pipes and drip cocks are entirely outside the casing, thus securing greater protection to the mechanism, and economizing space. Electric power may be used in place of steam if required.

Brokers are unable to find cargoes for more than a third of the vessels that are offered for coal and some contract boats are not getting full loads. A few ore cargoes are to be had at the head of Lake Superior, but 60 cents is the best figure offered and vesselmen say that they cannot carry ore and break even at that figure. Very little more chartering in ore will be done, as most of the shippers will do well to take care of their own and chartered tonnage.

The Brown Hoisting & Conveying Machine Co. has just shipped to Egypt, via Liverpool, the first consignment of a plant which has been ordered from them by the Egyptian State Railways. The machinery is intended for the construction of a coaling station which is to be made at Alexandria by the Egyptian State Railways. A cargo of machinery of the same character is being shipped to India, where it will form the nucleus of an extensive coaling station at the Kidderpore docks, Calcutta.

A Cleveland steamer, the Colonial, foundered on Tuesday morning during a heavy fog in St. Mary's river, near Little Rapids. The Colonial was owned by Hawgood & Moore of this city, who value her at \$60,000. She carried a cargo of ore and was bound down.

## DULUTH-SUPERIOR.

*Special Correspondence to The Marine Record.*

The U. S. Survey boat Picket has returned from the Apostle Islands with Assistant United States Engineer Darling, who has been charting some shoals in that vicinity.

The wheat rate is dull at 1½ cents and it cannot be learned that any business has been done at that. Barley has been taken at 1¼ cents; on the whole, the freight market is more than dull and there is no immediate change in sight.

It is reported that negotiations are pending for the transfer of the Crystal Falls and Great Western mines, now owned by Corrigan, McKinney & Co., to the Oliver Iron Mining Co. Both are non-Bessemer mines. The Crystal Falls produced 147,364 tons last year and the Great Western 43,316 tons.

The finest steel craft ever built on the Canadian side of the lakes is to be constructed this winter at Collingwood for the Beatty line, to run from Sarnia to Duluth. The steamer will have a speed of more than sixteen miles, will have accommodations for 250 first-class passengers and 3,000 tons of package freight. She will cost \$350,000, and will be 325 feet long.

Capt. W. H. Singer has returned from Chicago, where he recently closed a deal for the freight and passenger steamer Mabel Bradshaw for the White Line Transportation Co., of which he is the general manager. He says that the report that he is going to put the Bradshaw on the run between Duluth and Ashland is a mistake. She will run on the south shore, however, between Duluth and copper country ports. The steamer will receive extensive improvements the coming winter.

A Duluth owner of lake lumber tonnage says that shippers representing about 20,000,000 feet of boards at Duluth and Ashland, are in the market for boats at \$2.50. The boards represent about 25 cargoes and the vesselmen says the shippers are not readily getting tonnage, though he thinks they may be able to cover it at the rate. There is other lumber besides these particular blocks which will be in the market for boats and the vesselmen consider that the outlook for the balance of the season is favorable for advancing rates. The rail rate of 10 cents a hundred invites shippers of lumber to Chicago, however, when the rate goes above \$2.50.

The Biwabik mine at Biwabik has closed for the season, with a record of shipments of 915,000 tons for the year, the greatest amount by several hundred thousand tons that it has ever shipped in a single season. It is possible that the mine may resume shipments next month, if any new sales are made, but all the ore allotted to it and sold early in the year has been shipped. There are still a large force of strippers at work in the mine for the Drake & Stratton Co., and these will be continued steadily until cold weather, for there are about 1,000,000 yards of dirt to be removed on present contracts. Three shovels have been employed in running all season, and in one month they turned out 205,000 tons, working day shift only.

Iron Ore, of Ishpeming, Mich., has the following concerning the number of men employed in the mines of Marquette county at various times in the past ten years: "In 1891, Marquette county was working 8,000 men and 38 mines were in operation. That was about the high-water mark in this county. In 1895, 4,650 men were employed and only 19 properties were busy. Up to September, 1896, for the year ending that time, we were working only 4,153 men. For the year ending September, 1899, we were working 8,655 men. For the year ending September, 1900, we are working 6,627 men, and 31 mines and 6 explorations are operating." At one time when the depression following 1893 was at its worst only 3,096 men had employment in the mines of Marquette county.

The steamer Hiram R. Dixon will be replaced next spring by a new boat, plans for which have been prepared by Capt. Joseph Kidd, with instructions to submit plans and specifications to the various shipyards for bids. The new vessel will be ready at the opening of navigation next spring. The new steamer will be the finest boat devoted exclusively to Lake Superior traffic. Capt. Kidd will supervise the construction of the new boat. She is to be placed on the north shore route between Duluth and Isle Royale and Port Arthur. The company has not yet decided what will be done with the Dixon but she will either be sold or worked in connection with the business in some department of the Lake Superior traffic. No name has as yet been decided upon for the new boat. She will be 181 feet long, 29 feet beam and 12 feet 6 inches molded depth. She will be fitted with triple expansion engines of the latest and most approved type, and Scotch boilers capable of carrying 175 pounds pressure. The size of the propeller will be 8 feet 6 inches and the speed of the engine will be 140 revolutions a minute. The boat is expected to make 16 miles an hour and will be constructed of steel from the keel to the main rail. Above this she will be of wood.

THE Shipbuilding, Drydock & Wrecking Co., of Collingwood, Ont., has changed its name to the Collingwood Ship Building Co.

## BUFFALO.

*Special Correspondence to The Marine Record.*

As soon as the architect at Washington can prepare the plans and other preliminary arrangements can be made, which will probably be next spring, the site of the life-saving station at this port will be moved to the end of the south pier and new buildings will be erected. The new breakwaters have removed the usefulness of the old sea wall and it will be lowered to suit the requirements of the site for the new station.

The Lake Shore & Michigan Southern railway will build a steel elevator with a capacity of 750,000 bushels to cost, it is said, \$100,000, at Buffalo, N. Y. The contract for its erection was awarded to the McDonald Engineering Co., of Chicago. The elevator will be situated near the Elk street crossing of the company's tracks. Work will be begun at once, and it will be finished by March 1, 1901. Power from Niagara Falls will be used to run the machinery.

The tug Comet, which was bought at Tonawanda and left for Depot Harbor Monday night, is sunk on Hooper's Reef, near Selkirk, Ont. The tug was in charge of Capt. Thomas Brennan. When the boat struck the reef the whistle was blown for assistance, and a man living on the beach rowed a mile and a half in a small boat and took the crew ashore. They were later brought back to Buffalo. The tug Dunbar left on Wednesday night for the scene of the accident and will pump the boat out and bring her back to this port.

So does the Evening News speak of Mr. Mahany: "In his first term in Congress, he got \$2,200,000 for the breakwater, \$1,200,000 for the postoffice. As a result of the breakwater, the steel plant was established here, meaning \$30,000,000 in actual capital invested, not to speak of the hundred millions of dollars that will be invested in the docks along the water front protected by the breakwater. In minor matters he has served the city's interests at every point. He has been an intelligent friend of the Lake Carriers' Association, and rendered them a signal service when he obtained the light-house on North Manitou Island.

## CHICAGO.

*Special Correspondence to The Marine Record.*

Grain rates held steady on Wednesday to Buffalo at 1½ cents, with no change in sight. The demand for vessels was not fully supplied. 1½ cents on wheat to Midland is the going rate.

The converting and finishing departments of the Illinois Steel Co., at South Chicago were shut down last Saturday for two weeks' duration, said to be caused by the necessity of repairs in the two departments.

A rumor is current in lake navigation circles that the Indiana, Illinois & Iowa railroad is to open a new steamship line between St. Joseph, Mich., and Milwaukee. The steamship company concerned is the Lake Michigan & Lake Superior Transportation Co. Rumor has it that the two boats of that company's fleet, the City of Traverse and the Jay Gould, will be used in the service.

The Chicago Nautical School, conducted by G. W. J. Wilson, late lieutenant U. S. N., principal, opens next Tuesday evening with a class of about 20 students, composed of yachtmen and naval reserves. The class for captains and mates will not open until the close of navigation. Those who desire to excel in their profession ought to take a course of learning with the lieutenant.

The bill of complaint filed in the Van Buren Circuit Court by the Williams Transportation Co., of Chicago, in the suit to recover the money paid by it to the Cole estate for the steamer Darius Cole, sets up that the Cole was guaranteed to make fifteen miles per hour, but does not do so. The Williams line, therefore, asks for the return of \$75,000 in cash and of \$50,000 in notes, which they paid for the Cole. It also wants \$25,000 for damages for loss of business and expenses incurred in the transaction.

At the plant of the Chicago Ship Building Co., in South Chicago, work is being rushed rapidly on the four lake and ocean steamers building for the Northern Transportation Co. The keels of all four have been laid. Two of the boats will be launched about Christmas, a third will follow the middle of January and the fourth a month later. The engines will be placed after the vessels are launched. Work began Tuesday on the frames of two of the boats. About four hundred men are employed in the yards at present. This number will be increased to about eight hundred as the work advances.

A booklet with this title, just published by the Chicago, Milwaukee & St. Paul railway, should not only be in the hands of every traveller, but should have a place on the desk of every banker, merchant, vessel man or other business man. The four Time Standards, which govern our entire time system, and which are more or less familiar to most of the travelling public, but by many others little understood, are so fully explained and illustrated by a series of charts, diagrams and tables that anyone who chooses can become conversant with the the subject in question. There are also some twenty-four tables by which almost at a glance, the time at any place being given, the hour and the day can be ascertained in all the principal cities of the world. A copy of this pamphlet may be had on application to Geo. H. Heafford, general passenger agent, Chicago, enclosing two-cent stamp to pay postage.



## IRON ORE FROM CANADA.

In estimating the amount of lake business for next year and the probable rates for ore and other commodities, says the Chicago Journal, both the vesselmen and shippers are taking into account the effect on the market of the brown hematite ore from the Michipicoten district in Canada.

It has been practically demonstrated that Canada can not possibly use all the ore in this region, or as much of it as can be mined in a season. The pig iron industry across the border is still in its infancy, and the steel trade is little better. With nine furnaces in existence the greater part of last year was spent with four and five of them out of blast. The supply of ore in Canada has been more than enough to keep the furnaces going, so that unless the furnace capacity is greatly increased, and the demand for finished material grows apace, the ore from the Michipicoten district must seek a market in this country, or else lower the prices in Canada to a ruinous notch. According to reports the ore will be shipped here. Mr. Clergue, who is developing the new mines, was educated in the ore business in Ohio, and it is said, he is favorably impressed with the chances of the Canada mineral having a ready sale here. The new mining territory is being developed very rapidly, and the output will probably be increased two-fold next season. Shipments to Ohio ports will likely cause a flurry in the market, especially so if the Algoma railroad is in operation in time to handle the product with the least possible cost and the greatest dispatch.

It is reported from the mining districts in Ontario that the Canadians will demand lower freight rates so as to overcome the tariff on ore. By this means it is figured that the product will be put on equal terms with the ore produced in the Northwest. The real chance for the success of the new mines, however, lies in the fact that the cost of mining is considerably lower than in this country.

## MARINE ENGINEER, BUREAU OF IMMIGRATION.

The United States Civil Service Commission announces that it is desired to establish an eligible register for the position of engineer in the immigration service.

No scholastic test will be given, but applicants will be graded upon the elements of age, experience, intelligence, character as a workman, and physical qualifications as shown by the statements made in connection with their formal applications. It will not be necessary for applicants to appear at any place for examination.

It will be necessary for applicants to have had experience in handling and running naphtha engines.

Age limit 20 years or over.

From the eligibles resulting from this examination it is expected that certification will be made to the position of engineer on the launch Samoset, Bureau of Immigration, Ellis Island, N. Y., at a salary of \$65 per month, and to other similar vacancies as they shall occur.

This examination is open to all citizens of the United States who comply with the requirements and desire to enter the service. All such persons are invited to apply, and applicants will be examined, graded and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade attained in the examination. Preference may be given to eligibles who are residents of the section or district in which the vacancy exists.

Persons who desire to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application forms 304 and 394, which should be properly executed and filed with the commission prior to the hour of closing business on December 1, 1900.

THE Naval Board on Construction held a meeting this week for the purpose of making recommendation to the Secretary of the Navy, as to the number and kind of war ships it would be advisable for him to advise for construction, in his annual report. There was considerable division among the members of the board and no decision was reached. It is understood very generally that the Secretary is in favor of requesting principally gun boats of the smallest kind, for service in the rivers and harbors of the Philippine Islands. There are at present seventeen warships either authorized or in course of construction, and consequently the shipbuilding companies are taxed to nearly their utmost capacity. Then, again, the coming session of Congress will be very short, which is another good reason why the Secretary hesitates to ask for many ships of size. However, no decision has yet been reached by Mr. Long.

## HYDROGRAPHIC OFFICE NOTES.

LAKE SUPERIOR—PORTAGE RIVER—HIGH POINT LIGHT DESTROYED.—High Point light, recently established on the eastern side of Portage river, about  $4\frac{1}{2}$  (5) miles above the Houghton and Hancock bridge, was destroyed by fire October 11, 1900.

LAKE SUPERIOR—STANNARD ROCK LIGHT-HOUSE—PARTICULARS OF SHOAL TO THE WESTWARD.—With reference to Notice to Mariners No. 36 (987) of 1900, further notice is given that the rocky shoal reported westward of Stannard Rock lighthouse has been located by the United States Engineers. The shoal is a round spot about 40 feet in diameter with a least depth of 18 $\frac{1}{2}$  feet of water over it, surrounded within a radius of 100 feet by depths ranging from 25 to 29 feet. It lies in a position from which Stannard Rock lighthouse bears S. 89° 40' E. true (E.  $\frac{1}{8}$  N. mag.), distant 3,630 feet.

LAKE MICHIGAN—KENOSHA BREAKWATER—LIGHT ESTABLISHED.—On or about October 20, 1900, a fixed red lens-lantern light will be established at the southeastern end of Kenosha breakwater, Kenosha harbor, western side of Lake Michigan. The light will be suspended from a brown iron post at a height of about 30 feet above mean lake level. Immediately in front of the lake side of the post there is a V-shaped timber protection 6 feet high and 18 feet each way.

ST. MARYS RIVER—ST. JOSEPH ISLAND—RANGE LIGHTS ESTABLISHED ON STRIBLING POINT.—From and after October 10, 1900, the Canadian government proposes to maintain range lights at Stribling point, on the north end of St. Joseph Island, to replace the private lights heretofore maintained by the Lake Carriers' Association. The lights will be fixed white catoptric lights, shown from lanterns placed in front of the day beacons already in existence; that is, the front light will stand where the back light of the private range is now maintained. The targets of the day beacons are diamonds or lozenges, 6 feet square, painted white. The front target has a vertical black stripe through the middle of the diamond. It stands just inside the shore line, on low land. The light will be elevated 11 feet above the water and should be visible 4 miles in the line of range. The back light is situated on the hillside, 1,446 $\frac{1}{2}$  feet S. 68° 18' E. true (S. E. by E.  $\frac{7}{8}$  E. mag.) from the front light. It is elevated 44 feet above water and should be visible 4 miles in the line of range. The two lights in one, bearing S. 68° 18' E. true (S. E. by E.  $\frac{7}{8}$  E. mag.) lead through the middle of the dredged channel of the middle Neebish from its intersection with the alignment of the lower Hay Lake range lights to its intersection with the alignment of the Harwood Point range lights.

## LETTERS AT DETROIT MARINE POST OFFICE.

October 24, 1900.

To get any of these letters, addressees or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of this list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Arnold, W. S.	Lutes, Gleason-2, Desmond
Birmingham, Jas., Denver	Linnott, Frank, Balize
Bonnah, Capt. Wm.	Myers, Geo. C., Mass.
Bradbridge, A. T.	Miller, Charlie J.
Brown, John	Miller, Wm. F.
Beeson, Henry, America	McIntosh, W. D., Bangor
Brown, O. E., Omega	McKenna, F. P., Wilhelm
Bourbounais, Oliver	Nelson, Ivan, Ferguson
Bridley, Sam, Balize	Nellitt, Henry
Bender, Adam, Desmond	Notley, Chas.
Craine, E. N., Jno Duncan	Odette, Chas.
Campbell, Neil-2, C'y Cleve'd	Preston, J. E., Uganda
Case, G. W., M. M. Drake	Robertjohn, Frank
Carpenter, Mrs. Annie	Roberts, Jim, Larson
Crouch, Wm.	Rupert, Mabel, Dominion
Crothers, J. C., Wyoming	Rankin, A. M.
Donohue, E. M., Mass.	Shea, Harry, Desmond
Dupaie, J. E., Spalding	Spurles, H., Dominion
Elsey, A. W., Miami	Scott, John N., North Land
Ellison, Martin, Mont Eagle	Stanley, Jas., Mystic Star
Evans, C. W., W. E. Reis	Snider, John
Finnigan, John, Shaw	Swanson, Robt.
Fleming, Rich I.	Say, J.
Glass, Capt. E. H., Mystic Star	Taumpy, Fred.
Holzmueller, Joe	Sauer, Max, Bangor
Jordan, W. M.-2, Ira Owen	Wells, Geo.
Love, Chas, Crescent City	Williams, Jno.
Luger, Mrs. A.	Yost, Julius, North Wind
Long, Mary	F. B. DICKERSON, P. M.

## NOTICE TO MARINERS.

DOMINION OF CANADA—ONTARIO.

PORT COLBORNE FOG ALARM ENGINE DISABLED.—The engine of the fog alarm at Port Colborne, Lake Erie entrance to Welland canal, west pier head, broke down during a fog on the 15th instant. It will be repaired immediately.

F. GOURDEAU,

Deputy Minister of Marine and Fisheries.

Department of Marine and Fisheries,

Ottawa, Canada, 15th October, 1900.

A new excursion boat to run between Chicago and Lincoln park will be built this winter for Thomas Bradwell, of Chicago.

## FLOTSAM, JETSAM AND LAGAN.

Chicago vesselmen want lumber rates from Lake Superior forced up to \$3, and are asking Cleveland vesselmen to co-operate.

The Western Elevating Association, of Buffalo, wants the city to deepen the harbor. The mayor indorsed the communication.

It is said that the Pennsylvania Railroad Co. will soon build three 5,000-ton steamers for the freight and passenger business of the lakes. The boats will fly the flag of the Anchor Line.

The steam barge Osceola crashed into the Fullerton avenue bridge on Monday at Chicago and carried away 10 feet of sidewalk. August Zasak was thrown into the river, but escaped by swimming.

The particulars of the two immense steamers which the North German Lloyd is building, and which will be running next year, have been officially announced. The Kaiser Wilhelm is of 19,500 tons register and 38,000 horse-power. The Kron Priz Wilhelm is of 15,000 tons register and 33,000 horse-power.

The Mississippi jetties are among the most gigantic engineering feats of the world, costing in the neighborhood of \$5,000,000, and making a 26 foot channel out of a stream where there was formerly but a shoal draft of water. This has made of New Orleans a port for the largest among ocean going vessels.

Those vessels that have been engaging in the wild trade or unchartered for the season, find it poor picking, with coal at 25 cents, grain at a cent and one-half, and longshoremen's wages what they are now. It is thought that there will be poor picking from now on to the close of the season the way business looks at the present.

Last spring George Goldberg of 698 Grandy avenue, shipped on the steamer Rhoda Emily as fireman. June 7 he shipped on the steamer Rhodes at Hancock, and nothing has since been heard from him. As Mrs. Bennett, at the foregoing number, is paying his life insurance assessments, at his request, she would like to learn where he is.

Mr. Clergue's iron mines will soon be turning out 3,000,000 tons of ore annually, and that enormous quantity will be smelted and changed to Bessemer steel right here, in this lively little town of Sault Ste. Marie, Ont. The Helen mine is now rolling out ore at the rate of 2,000 tons per day, and the mine is only beginning to assume workable shape.—Pioneer.

The six-masted schooner Eleanor A. Percy was launched from the yard of Percy & Small, Bath, Me., on Oct. 10. The dimensions of the vessel are: Length, 325.5 feet; width, 50 feet; depth, 24.8 feet; gross tonnage, 3,401.96. She will cost \$140,000 when completed. She is owned in Bath, Boston and New York, the builders, Percy & Small, being managing owners.

The car-ferry line that delivers coal from the Pittsburg region to Canadian ports of Lake Erie is so far behind with business, largely on account of the steel rails going over the route, that the Pittsburg, Bessemer & Lake Erie road, that reaches the lake at Conneaut, has asked that no coal be offered it for two weeks, so that it can catch up. It is expected that another and better boat will be ordered this winter.

The Delaware, Lackawana & Western Ry. Co., has had constructed an exceptionally large steel sea going tug for towing coal barges between New York and Boston. The tug is 25 ft. beam and is 150 ft. in length over all. It is fitted with triple expansion engines of 800 horse-power and is guaranteed to pull six coal barges, of 1,600 tons capacity each. It is equipped with electric search lights, wrecking and fire pumps and all other modern devices.

With fair weather and high water after the blow of the last two days the tugs Goulder and Monk succeeded in pulling the steamer Pawnee off Gull Island reef, on Wednesday morning. The barge Young was also released a little later. Seventy-five tons of coal had to be lightered from the Pawnee. This was reloaded after her release. Both boats were found to be in good condition, and the Pawnee with her three barges started up the lakes.

Schooner Edward T. Stotesbury was launched on Oct. 11, from the yard of McKay & Dix, Bucksport, Me. The Stotesbury is a fine four-master, double-decked, 1,446 tons gross, 1,277 tons net. She is 210 feet long, 41.6 feet beam, and 21.6 feet in depth of hold. She is designed for the general carrying trade. Capt. Chas. B. Dix, of New York, is the managing owner. She will hail from New York, and will be commanded by Capt. Darrah, formerly of the schooner Edith L. Allen. She already is chartered to load 7,500 barrels of refined petroleum, Philadelphia to Liverpool, at 5s.

The Canadian schooner Fabiola foundered in Lake Ontario, near the false ducks, on Sunday morning. The crew escaped in a yawl boat and landed at McDonald's Cove. The Fabiola was loaded with a cargo of coal for James Swift & Co., of Kingston, and left Charlotte on Saturday. There was a high wind and much sea and when about five miles out she sprung a leak. The crew worked hard at the pumps, but the vessel foundered in spite of their efforts. The schooner was owned by Capt. Bates, her master, and was thirty years old. She had a tonnage of 147 and measured 100 feet in length by 22 feet beam. Both vessel and cargo were uninsured.



## ANNUAL NAVAL REPORT.

The report of Rear Admiral Geo. W. Melville, U. S. N., chief of the Bureau of Steam Engineering, is in part as follows:

More modern vessels should be used for the practice cruise. The Cincinnati and Raleigh could be used for this purpose, and at the same time utilized for experiments in the economy of engines and boilers and the best type of screw propellers. This would give the young men the advantage of an exceptionally valuable experience and inculcate in them a spirit of scientific investigation. The Cincinnati or Raleigh is selected as having a type of tubulous boilers now coming extensively into use in the service, and also as having engines with a greater cylinder ratio than has been usual in our naval engine up to this date. An appropriation of \$100,000 for general experimental work is asked.

Admiral Melville thinks that some of the time now devoted at the Academy to seamanship, in the original sense of the term, might wisely be sacrificed to steam engineering. Smoke stacks have replaced topsails and topmasts, and the officer of the deck find more need of skill in quick maneuver than in handling canvas aloft. Admiral Melville says:

"Another year of experience under the provisions of the 'personnel bill' finds the status of steam engineering interests in the Navy even less fully protected, and the number and condition of the force for their control even less satisfactory than when I made my last annual report.

"I am free to acknowledge that the events of the past year have brought only discouragement to those most deeply interested in a successful outcome of this new law, but I am equally candid in the belief that the cause of this discouragement lies not in the scheme itself, but in a lack of full appreciation, on the part of the department, of the urgency of the need for haste, not only in providing the fullest opportunity for the acquirement of practical engineering knowledge on the part of the younger officers of the former line, but in enforcing their embracement of this opportunity in the most effective manner by department orders.

"In a number of cases former line officers have had charge of the machinery of vessels, during the past year, and while, in some instances, owing to lack of experience, their control has not been marked by all desirable efficiency, in no instance has there been evidenced any carelessness or lack of close attention to the work. On the contrary their devotion to the new duty has clearly been indicated.

"With steam engineering as a line duty this is pleasing to those who formerly had its entire control, and whose greatest fear might naturally be supposed to be that no efficient engineer officers would succeed them, and that the machinery department of ships would eventually be controlled by men of more purely practical education (machinists) incapable of maintaining that constant stress toward increased efficiency found so needful to advance or of retaining the proud position of steam engineering of the United States Navy at the head of the marine world."

"The Engineer Corps was deficient in numbers before the personnel act, and now it has 100 men less while the work has greatly increased. To the colliers and small ships have been assigned in most cases, in lieu of trained engineers, former line officers as heads of the steam engineering department, these depending principally upon the machinists for expert directions. "That many casualties have not resulted is not, however, due to the propriety and efficiency of this arrangement, nor does it indicate a safe and commendable condition, for it has only been by dint of the most anxious and continuous care on the part of the depleted force that mishaps and breakdowns have been infrequent. In other words, a state of tension has existed and now exists under which it is neither wise nor safe to continue a day as it is sapping the energy of good men. Instead of building up a personnel for the day of need, stronger than necessary for the time of peace, the engineer officers and men are kept at the point of elastic limit, and a new war to-day could not fail to develop a large list of physical incapacities in the engineering branch the moment the additional burden was put upon them.

"It is impossible to create in a few months expert engineers from even the most intelligent officers unused theretofore to machinery. Experience daily under all conditions of service alone perfects efficiency, when combined with intelligence, and this experience should be given now to all line officers possible, below the grade of lieutenant-commander, both at sea and ashore. From the many we are sure to gather a fair proportion particularly adapted to the work and with natural proclivities toward mechanics. These will be the real additions to the engineering branch, and will increase as greater numbers come from the Academy. The others fairly well versed in time, will fill the gaps in emergency or war, and with a universal general interest there will be no need to call for volunteers to man our ships in this department.

With great earnestness Admiral Melville says: "That I should betray unusual anxiety on this question can only be through my intimate knowledge of the conditions now existing and my earnest interest in the welfare of the service. My views, I can properly say, should have more weight upon this point than the views of any other naval officer or board, as these can not view the situation from as comprehensive a standpoint as can the engineer in chief, upon whose shoulders for years has been the special care and protection of naval engineering.

"I regret I have failed to impress you to the point of action by my former communications. Had a series of calamitous events occurred during the past year to make graphic

the insufficiency of the present force of expert engineers, I am sure potent remedial measures would have been promptly taken by the Department. But while glad indeed to have disaster averted, I can assure you that danger now exists. It lurks in the silence of seeming security, but a knowledge of its presence should increase the desire to hasten its removal. Fortune alone has postponed casualty.

"I have already suggested to have incorporated in the Regulations the best method for the needed training at sea, i. e., by departmental order to compel all line officers below the navigators of ships to alternate in duty in the engine room and on deck, and efficiency reports to be made quarterly to note their progress and class their ability.

"That I should continue from year to year to make a recommendation for the appointment of an Assistant Chief of Bureau, in spite of as many failures to obtain the requested action, is only explained by the fact that the need for this officer continues to be as great and even greater than before, owing to the increasing work."

Admiral Melville thinks that warrant machinists should be kept in their place and not encouraged to hope that they may some day constitute a full-fledged engineer corps. He says: "For the purpose of preventing such unreasonable hopes and for promoting content, I advised in my last report that clear and precise regulations for this grade should be promulgated, defining their duties and properly limiting their aspirations to a full and faithful discharge thereof."

We recall a story of two lovers who could not marry because they differed in religion. The Jewess wrote to the Christian that she abjured her faith to accept his, but, unfortunately, he wrote at the same time that he had decided on the same course and become a Jew. So the original difficulty continued. The case seems to be much the same with the line and the engineers in the Navy. They have changed positions but are no nearer to assimilation than they were before.

Our Engineer-in-Chief also admonishes the Secretary of the Navy on another subject, and declares his objections to the consolidation of Bureaus. He says: "In every large shipbuilding establishment the Bureau system actually prevails to a more complete separation of the special branches of the work than has ever been practiced in the Navy. Nominally there is a head of each concern, but no pretense is ever made by that head of possessing expert knowledge regarding all the branches of the establishment.

"There is at present already established a 'Bureau of Ships,' though it is named the Navy Department, and the head of this Bureau is the Secretary of the Navy. No pretense is made by this head of having expert knowledge in any branch of the work, and for the most efficient control of the various branches he has secured to him the supposedly highest expert talent in each, necessarily depending upon them for carrying out their particular details. He realizes the impossibility of one man's ever possessing the combined education and ability to successfully pose as an expert in all, and he has only to turn to the curriculum of a school of technology to assure himself that a lifelong study in any one mechanical art is needed to secure eminence and utmost proficiency in it.

"Hence, when the three Bureaus named seek a head for their proposed combination, it must either be a 'non-expert' head capable of managing all three efficiently, same necessity as now would exist for retaining separate expert sub-heads for each division, or there must be an 'expert' head capable of managing all three efficiently.

"The present head of the 'Bureau of Ships' has for his most efficient advisers the Board on Construction. If he freely abides by the majority vote of this Board he may feel assured that he has not committed any technical errors, even if he may at times secure thereby a somewhat lesser excellence in results than the very best. The results will always be safe, and the past has shown this to be true.

"The Department could not be better equipped than it is with such a Board, consisting as it does of experts in every branch of the naval profession, for it must be remembered that there is no lay member on that Board.

"Ships of war are of such construction that it would not be safe to trust their design to any one man, with the prospect of his carrying out thereon his particular fads or experiments.

"That differences should agitate the Board is not only natural but also highly proper, and is a most effective protection against hasty and regrettable action. This occasional lack of harmony must not be confused with any real lack of efficiency, nor into a cause for recommendations having for their object the reversal of the true business principles by a combination of radically different professional duties.

"I, in common with the chiefs of other Bureaus, naturally feel a pride in the eminence of the Bureau I control, but I am honest in declaring that my opposition to the proposed combination has a reason far above personal feeling or ambition, and that reason is my positive knowledge of the fallacy of the arguments for it and the firm conviction that only confusion, greatly decreased efficiency, and greatly increased expense can possibly result. I can therefore frankly ask that you reconsider the recommendation before renewing it in this year's report."

Admiral Melville gives a statement concerning the general operations of his Bureau which shows how heavily it is taxed. The approved plans for a single vessel like the Kearsarge require 595 drawings and the number for smaller vessels and torpedo boats is not much less. This is to be multiplied by the seventy vessels under construction or pending award of contract for building. Many of these drawings are submitted more than once for alteration in

details. The Chief says: "The labor and talent needed for the above work is too often overlooked and is seldom appreciated by any but those under whose eyes the work is carried on. I can assure you, however, that the wonderful immunity from casualty in the engineering department of the vessels of the Regular Navy is in a great degree the result of the extraordinary ability exercised in the designing rooms of the Bureau."

It has, for one thing, prevented the adoption of the Belleville water-tube boiler as the standard for the new ships.

The work of repairs to ships both in commission and in ordinary has been uninterrupted at the principal navy yards and stations, and has been almost upon a war footing continuously during the year, owing to the protracted conditions of hostilities existing in the East.

An urgent deficiency appropriation of \$600,000 is called for and \$1,000,000 for a repair ship with equipment. During the year there were repairs made to, or parts manufactured for, the machinery of 195 vessels of all classes of the Navy, at the navy yards and stations at home. Counting different visits of the same ship to yards for repair work as separate items, the above number is raised to 227, while, in addition, the station at Manila has done work upon about all the vessels attached to the Asiatic squadron.

The experience last June in getting the Indiana and Massachusetts to sea in one-half the time it was expected that they would require shows the advantage of keeping the machinery of the larger ships in condition for service with skeleton crews on board at all times. Had these vessels been laid up in ordinary it would have been weeks before they could have started, and their first progress would have been marked by all the delays and minor mishaps attendant upon a first trip with a green crew.

It is recommended that when there is a scarcity of officers and men, the number of active vessels should be reduced, especially in our home squadrons, and skeleton crews provided for all the ships of importance. A number of torpedo boats should be kept at each of the important navy yards, directing that when ships of the navy come to these yards for repairs, their officers and crews, in suitable divisions, should prepare and operate these boats in the harbors adjacent, not only to gain valuable experience in their handling, but also in the use of water-tube boilers under forced-draft conditions.

## REPORTED BY THE LOOKOUT.

Edward Vizenski, aged twenty-two years, a sailor on the steamer Flower, fell from the deck into the hold, receiving injuries from which he died. He lived at Ludington.

The steel tower for the display of wind signals at Washburn is completed. It is located directly in the rear of the merchandise dock, on the high ground. Flags will be displayed there this fall but the electric lights will not be transferred from the present location until next spring.

The steamer Colonial struck a boulder on Tuesday during a fog near the light-house in Little Rapids. A hole was punched in the steamer but her captain succeeded in getting her out of the channel before sinking. She finally sank about midway between the black can and the light-house with her bow up stream. Her decks are slightly under water. There is about 100 feet of clear channel astern of the wreck. With the assistance of tugs all vessels can get by.

The Eleanor A. Percy was launched at Bath, Me., on October 10th, and the Evening Times, of that city, devotes much space to a detailed description of this mammoth schooner, from which the following brief extracts are made: "She is the largest wooden six masted schooner in the world, and the second one constructed, the George W. Wells, launched in Camden a few weeks ago being the first. The Percy is 431 tons larger than the Camden schooner, as the following custom house figures show: Eleanor A. Percy—length, 323.5; breadth, 50; depth, 24.8; gross tonnage, 3,401.96. George W. Wells—length, 319.3; breadth, 48.5; depth, 23; gross tonnage, 2,970. The Percy is a craft in which time and money are not spared in the selection of the material and the work of construction. About 1,250,000 feet of pine were needed; her masts are selected Oregon pine, 122 feet long for lower masts, and top masts 54 feet long. All the fittings are of the most modern description. In short, except that Eleanor was christened with roses and pin's instead of an honest quart of good wine, she is emphatically up to date."

Bad Steering Sustained by Evidence.—The tug towing the vessel in question, having occasion to change her course to starboard because of a light ahead, signaled the vessels that she was about to change, and for them to follow, and after a few minutes made an irregular signal, and changed back to her regular course. The officer in charge of the C., not understanding the signals, ordered the helmsman to port the wheel, as he went forward to see what was going on, and on his return assisted in settling the wheel hard a-starboard, with the result that the vessel sheered to starboard in a manner to cross the towline of the R., and then took a sheer to port, immediately after which a jar was felt on the tug, the towline of the C. parted, and within a minute or two the bow of the R., which was on the longer hawser, struck the C.'s port quarter near her mizzen rigging, causing serious damage to both vessels. Held, that the bad steering of the C. being the only charge of negligence that was sustained by the evidence, that vessel was liable for the damage done to the R. The Ravenscourt, 103 Fed. Rep. (U. S.) 668.



## THE MASTERY OF THE OCEAN.

A representative of the Scientific American who crossed the ocean on the Deutschland on the occasion of its alleged race with the Kaiser Wilhelm, says:

"At the invitation of Mr. A. Bliedung, the chief engineer, our representative visited the engine and boiler rooms while the two vessels were abreast in the so-called race, and at a time when the Deutschland's engines were indicating between 37,000 and 38,000 horse-power, and he was at once impressed with the quiet and orderliness with which the staff of engineers, firemen and coal-passers were doing their work. The temperature in the stokeholds and on the lower engine room platforms was but slightly above the normal of the atmosphere, and this in spite of the fact that coal was being consumed in the 112 furnaces at the rate of 572 tons per day, and that steam at 213 pounds pressure was being expanded in the twelve cylinders of the twin, quadruple-expansion engines at the rate of 178 tons per hour. No clearer proof of the fact that steamship designing, as carried out in a first-class establishment, is an exact science, and shipbuilding a perfected art, could be asked for than was presented by the utter absence of excitement or evidence of unwonted effort in the engine and fire rooms of this fine vessel under circumstances where such excitement would have been expected and natural. That a 23,000 ton Deutschland with 37,000 horse-power would overtake and pass a 20,000 ton smaller edition of herself with 28,000 horse-power was a foregone conclusion, provided, at least, that the safety valves were just lifting at the Board of Inspection pressure of 213 pounds to the square inch.

"The total coal consumption for twenty-four hours, including the auxiliaries, was 572 tons, which works out the highly economical figure of 145 pounds per horse-power per hour. This high economy is due in general to the all-round excellence of the boilers and engines, but particularly to the Howden's forced draught, with which the boilers are fitted, in which the air supply to the furnaces is raised by the heat of the escaping furnace gases from 70 degrees to 270 degrees Fahrenheit before it enters the furnaces, the temperature of the uptake being lowered by a corresponding 200 degrees Fahrenheit.

"On the return trip to America the Deutschland received the first real test of her capabilities in varying conditions of wind and sea, and the result proved that, given a vessel of sufficient strength, weight and power, the full strength of an Atlantic gale is powerless to stop her."

## BRITISH SHIPBUILDING.

From the returns compiled by Lloyd's Register of Shipping, it appears that, excluding warships, there were 452 vessels of 1,204,008 tons gross under construction in the United Kingdom at the close of the quarter ended 30th September, 1900. The particulars of the vessels in question are as follows, similar details being given for the corresponding period in 1899 for the purpose of comparison:

DESCRIPTION.	30TH SEPT., 1900.		30TH SEPT., 1899.	
	No.	Gross Tonnage	No.	Gross Tonnage
<b>STEAM.</b>				
Steel .....	398	1,187,264	471	1,331,215
Iron .....	23	4,363	61	11,060
Wood and Composite .....	2	785	1	110
<b>Total .....</b>	<b>423</b>	<b>1,192,412</b>	<b>533</b>	<b>1,342,385</b>
<b>SAIL.</b>				
Steel .....	9	9,280	9	3,620
Iron .....				
Wood and Composite .....	20	2,316	16	1,544
<b>Total .....</b>	<b>29</b>	<b>11,596</b>	<b>25</b>	<b>5,164</b>
<b>Total steam and sail</b>	<b>452</b>	<b>1,204,008</b>	<b>558</b>	<b>1,347,549</b>

The present return shows a reduction in the tonnage under construction of about 61,000 tons, as compared with the figures for last quarter. As compared with the return for December, 1898, which is the highest on record, there is a reduction of 197,000 tons.

Of the vessels under construction in the United Kingdom at the end of September, 379 of 938,595 tons are under the supervision of the surveyors of Lloyd's Register with a view to classification by this society. In addition, 63 vessels of 221,778 tons are building abroad with a view to classification. The total building at the present time under the supervision

of Lloyd's Register is thus 442 vessels of 1,160,373 tons. Details of this total follow:

	No.	Gross Tonnage
Building in United Kingdom for home account, for sale, etc. ....	306	722,438
Building in United Kingdom for foreign and colonial account. ....	73	216,157
Building abroad for United Kingdom owners ditto for foreign account. ....	2	770
Total building on 30th Sept. for classification in Lloyd's Register book. ....	442	1,160,373

OTHER DETAILS. (WARSHIPS EXCLUDED.)

The following details concerning the shipbuilding work of the United Kingdom during the past three months, may be added:

DURING QUARTER ENDED 30TH SEPT., 1900.	STEAM.		SAIL.	
	No.	Gross Tonnage.	No.	Gross Tonnage.
Vessels commenced. ....	120	311,834	10	2,878
Vessels previously commenced, but on which no further progress has been made. ....	1	120	6	536
Vessels launched. ....	171	347,444	6	3,337

## SIZE OF VESSELS UNDER CONSTRUCTION. (WARSHIPS EXCLUDED.)

The following table shows the vessels under construction in the United Kingdom classified according to gross tonnage:

TONNAGE.	NUMBER.	
	Steam	Sail.
*Under 50 tons. ....	3	4
*50 to 99 tons. ....	3	6
100 to 199 tons. ....	61	11
200 to 499 tons. ....	54	5
500 to 999 tons. ....	29	.....
1,000 to 1,999 tons. ....	44	1
2,000 to 2,999 tons. ....	26	.....
3,000 to 3,999 tons. ....	90	2
4,000 to 4,999 tons. ....	55	.....
5,000 to 5,999 tons. ....	16	.....
6,000 to 6,999 tons. ....	15	.....
7,000 to 7,999 tons. ....	8	.....
8,000 to 8,999 tons. ....	2	.....
9,000 to 9,999 tons. ....	4	.....
10,000 tons and above. ....	13	.....
<b>Total .....</b>	<b>423</b>	<b>29</b>

\*Vessels of less than 100 tons are not included in Lloyd's Register Shipbuilding Returns unless they are intended to be classed in the Society's Register Book.

## VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD, by George F. Stone, Secretary Chicago Board of Trade.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo .....	3,854,000	356,000	300,000	71,000	716,000
Chicago .....	13,163,000	2,814,000	3,927,000	515,000	9,000
Detroit .....	472,000	40,000	173,000	86,000	2,000
Duluth .....	6,709,000	122,000	95,000	87,000	610,000
Fort William, Ont. ....	845,000	.....	.....	.....	.....
Milwaukee .....	725,000	145,000	373,000	4,000	48,000
Port Arthur, Ont. ....	97,000	.....	.....	.....	.....
Toledo .....	1,289,000	381,000	1,618,000	25,000	1,000
Toronto .....	55,000	.....	1,000	.....	165,000
On Canals .....	249,000	516,000	14,000	.....	175,000
On Lakes .....	983,000	2,204,000	245,000	10,000	290,000
On Miss. River .....	.....	.....	.....	.....	.....
<b>Grand Total .....</b>	<b>58,313,000</b>	<b>8,914,000</b>	<b>12,310,000</b>	<b>1,017,000</b>	<b>2,595,000</b>
Corresponding Date, 1899 .....	48,555,000	14,039,000	6,742,000	1,063,000	2,510,000
<b>Increase .....</b>	<b>1,335,000</b>	.....	75,000	31,000	247,000
<b>Decrease .....</b>	.....	975,000	.....	.....	.....

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

THE eighth annual meeting of the Society of Naval Architects and Marine Engineers will take place in New York at 10 a. m., Thursday, November 15. The meeting will be held at No. 12 West 31st street, the sessions continuing through Thursday and Friday, November 15 and 16. There will be a banquet at Delmonico's at 7 p. m. Friday, Nov. 16, to which members and their guests are cordially invited. Tickets can be obtained at the society's office on November 14, 15 and 16.

## SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

**Negligence—Collision—Evidence.**—It appearing that the hawser by which the C. was towed was comparatively new; that it had been thoroughly tested, and found sufficient to sustain a strain many times greater than that required to tow the C.; that aside from the fact that the towline broke, there was an entire failure of proof of any fault on the part of the tug in furnishing a defective hawser—the owners of the tug are not liable for damages sustained by the C. in a collision with another vessel being towed by the same tug, which occurred through the breaking of the hawser. The Ravenscourt, 103 Fed. Rep. (U. S.) 668.

**Towage—Implied Contract.**—The captain of the C., having applied to the manager of a tug for the towage of his vessel to sea, was informed that the tug was under contract to tow the vessel R. the next day, and that, if the latter was not ready, it would take the C., but that if the two vessels were ready it would tow both. The next day, the R. being ready, the captain of the C. was informed of the orders of the tug to take both vessels, and, although he expressed dissatisfaction, he signed an order for the payment of the towage money, and voluntarily took on board the tug's hawser, and made it fast to the C.'s foremast. Held, that there was an implied agreement that the C. was to be towed in company with the R. The Ravenscourt, 103 Fed. Rep. (U. S.) 668.

**Shipping—Injury to Stevedore—Liability of Ship.**—A ship which was being navigated by the owners under a time charter entered port, and was taken possession of by the charterers, to be by them discharged and reloaded. She was discharged by employees of the charterers, and was directed to proceed to another wharf at no great distance for reloading. While on the way, libellant, who was a stevedore in the employ of the charterers, with others, was directed by them to wash the holds preparatory to reloading. In removing the cover from a hatchway, libellant stepped upon another part of the cover, which gave way by reason of its having been improperly replaced by the stevedores after discharging, and libellant fell through the hatchway, and was injured. The hatch cover was in sufficiently good condition, and was safe to stand upon if properly placed. Held, that the ship, being, under the charter, under the sole control of the charterers while in port, for the purpose of being discharged and reloaded, was under no duty with respect to the placing of the hatch covers during such time, and could not be held liable for the injury. The Wilowdene, 103 Fed. Rep. (U. S.) 678.

**Salvage—Conduct of Salvors—Proximate Cause of Danger—Evidence.**—As the claimant was crossing the bar at the entrance of a harbor she received a signal of one whistle from libellant's tug, responded with a single whistle, immediately ported her helm, and, after proceeding two or three minutes on her course, struck a shoal in rough water, by reason of which her rudder post was broken, and she signaled for assistance. After getting off the bar, the claimant, being in a helpless condition, was washed on the bar a second time, before the tug went to her assistance, and the latter even then did not come nearer than 400 feet, because of the shallowness of the water. Thereupon the claimant launched her own boat, and carried a line to the tug, whereby the latter was able to give her hawser to the claimant, and to tow her to a place of safety, and for repairs; the service lasting about two hours. Held, that the channel being wide enough for two vessels to pass, and the claimant, in any event, having the right of way, because of her having commenced to cross the bar first, her deviation from her course was an error of navigation, which, rather than the signal of the tug, was the proximate cause of her stranding, and that therefore, the service rendered by the tug was a salvage service, for which the libellant was entitled to compensation. The Grace Dollar, 103 Fed. Rep. (U. S.) 655.

**Admiralty—Claim for Sinking Vessel—Neglect to Display Lights.**—In a channel from 400 to 450 feet wide, eight vessels were moored abreast off a coal dock on a dark and foggy night, occupying nearly 190 feet of the channel, at a distance of 350 feet from a steamboat dock. The masters of the vessels went to bed, knowing of the fog, and, if any lights at all were displayed outside the cabin, they were only those of ordinary lanterns. When about five-eighths of a mile from the coal dock, the claimant, which was approaching the steamboat dock, reduced her speed to one bell, blew fog signals, and, before the collision in question, had stopped her engines, so that the vessel was being carried by the tide. The pilot in charge of the wheel of the claimant was a man of long experience, and the compass course pursued by him carried his steamer about 100 feet off the face of the coal dock, which course was approved by previous experience. Although three men besides the captain were in the bow of the claimant on the lookout, the vessels at the coal dock were not discovered until within about 50 feet, when the pilot gave the signal to back, but the forward movement was not stopped before the steamboat struck a barge belonging to the libellant, which was driven forward up the river and sunk, and for which damages are claimed. Held, that common prudence demanded that vessels appropriating so large a portion of the channel should employ adequate means to make their presence known, and that, the course of the claimant's pilot being a fair navigation of the channel, in the absence of any warning apprising him of interruption the libel should be dismissed. The Kennebec, 103 Fed. Rep. (U. S.) 681.





ESTABLISHED 1878.

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 of contributors as to the use of their names will be scrupulously  
 regarded.

CLEVELAND, O., OCTOBER 25, 1900.

**TO REMOVE THE MAINE.**

Secretary Long has given his consent to the removal of the  
 battleship Maine from Havana harbor.

Immediately upon the return of Gen. Wood to Havana he  
 will make arrangements for the raising of the wreck.  
 Several months ago applications were made to Gen. Wood  
 by persons willing to remove the Maine if they were given  
 the hull in return for the work, and it is possible that they  
 may still be willing to observe the same terms.

Besides the Maine, Gen. Wood will probably make ar-  
 rangements for the removal of the armored cruisers Vizcaya,  
 Almirante Oquendo and Cristobal Colon, that now lie along  
 the south coast of Cuba, and the gunboat Jorge Juan, which  
 is lying in the mud in the harbor of Nipa.

Gen. Wood will have a representative present during the  
 removal of the Maine, and Lieutenant Commander Lucien  
 Young, the captain of the Port of Havana, will witness the  
 operation. Should any evidence be discovered bearing upon  
 the cause of the destruction of the ship, it will be immedi-  
 ately reported to Washington. The Maine is pretty far down  
 in the mud and it will probably be a difficult task to raise  
 her.

**IRON AND STEEL.**

Iron and Steel, the organ of the Western iron trade, says:

If the producing capacity of the country were to remain  
 stationary, there seems little question, in view of the heavy  
 inquiries now visible, that a strong market would ensue in  
 near future. The uncertainty is whether the magnificent  
 increase in the consumption of iron and steel has kept even  
 with the increase of production, which will make itself  
 manifest during the coming months. There are said to be  
 many projects ahead, which are waiting only for the assur-  
 ance that business affairs are not to be distributed, to become  
 concrete factors in the trade, but their relative weight to  
 that of production is the uncertain factor.

Surveying the markets widely there is probably a slight  
 gain in the volume of trade. The rail situation is clearing  
 and while the Pennsylvania road at this writing is not known  
 to have allotted its heavy requirements among the respective  
 producers, the initial movement towards purchase taken by  
 that company has had a good effect upon trade. About 15,-  
 000 tons of rails were sold at Chicago this week.

There is a stiffening of values in sheets, due as much as  
 anything to the inadequate stocks in the west. Users have  
 allowed supplies to run very low and are now asking for  
 material in excess of the ability of producers to promptly  
 fill. Bars also have much strength, modified in part by the  
 hunger of a few mills. With the bulk of the producing ca-  
 pacity engaged for months ahead, the present tendencies  
 point to strength. The trend of plates is upward, not so  
 much on account of an improved demand as because makers,  
 when they made the low prices under the stress of competi-

tion, did so under the belief that the prices would be tempo-  
 rary. They are said to be tiring of the depressed levels and  
 to be in a mood to get a little more money for the product.  
 The outlook for plates is reasonably bright. Thus in ship-  
 building there are said to be enough orders pending the  
 battle of the ballots to engage well through next season the  
 capacities of the lake shipbuilding yards.

Actual business this week has on the whole been of a mod-  
 erate character. Current demand, in the aggregate, is less  
 than the possible output, and in consequence much pro-  
 ducing capacity is idle. But calls are a little larger, even  
 for immediate use, and the industrial activities continue to  
 slowly expand.

There is great disparity in the prices of pig iron this week.  
 Some prominent producers have not varied from their quo-  
 tations of two weeks ago, but the trade assert that iron can  
 be bought considerably lower. Some new furnaces recently  
 opened in Ohio and a few of the southern furnaces are said  
 to have been looking for business so earnestly that lower  
 quotations resulted. There has been some iron sold at low  
 quotations, the deliveries of which could not be made, and  
 the purchase of substitute iron was necessitated at higher  
 levels. Quotations heard vary from each other fully a  
 dollar per ton, and transactions at the higher figure are not  
 uncommon. The market is therefore quite ragged.

**AERIAL NAVIGATION.**

Mr. E. J. Pennington, the man who gained fame by his  
 experiments in aerial navigation, writes:

"We certainly live in the age of rapid mechanical develop-  
 ment. We have just read the full description of Zeppelin's  
 airship. It is a wonderful machine and represents a long  
 stride in the right direction. I think that its designer has  
 accomplished all that could have reasonably been expected  
 and that he deserves high commendation.

"Count Zeppelin started right. He provided a proper  
 house or harbor from which to launch his craft on her aerial  
 voyage. Every ocean vessel must have a port in which it  
 finds protection against the elements. From this port it goes  
 forth, and at this port it lands. An airship requires the  
 same kind of accommodation. All the governments of the  
 world should go to work constructing harbors for airships,  
 which should be built in many places in every civilized  
 country.

"If such ports existed to-day Zeppelin could travel around  
 the globe in his latest invention. Furthermore, accurate  
 charts should be made of atmospheric conditions at different  
 periods of the year in all places where airships can be ex-  
 pected to go. My own investigations prove that well-  
 defined air currents prevail with regularity at different alti-  
 tudes. These currents should be carefully noted on the  
 charts so that an aeronaut could seek the one best calculated  
 to carry him in the desired direction.

"Some persons are disposed to smile at Count Zeppelin's  
 achievement. They forget the difficult nature of his under-  
 taking. Do they not know that even the bicycle rider must  
 try many times before he can manage his machine? Count  
 Zeppelin has made only two trials and has done better than  
 a novice could have done on a wheel in the same number of  
 attempts. An up-to-date railway locomotive would be of  
 little use in the hands of a man unacquainted with the  
 proper method of its manipulation. It would no doubt suffer  
 greater damage in a trial trip with inexperienced hands  
 than Zeppelin's admirable apparatus has suffered.

"Great men like this gifted count should receive sub-  
 stantial encouragement from those capable of devoting  
 financial means to the mechanical progress of the age.  
 Every large problem requires infinite pains and patience.  
 Only a little while ago telegraphy and telephony in their  
 modern development were not dreamed of as within the  
 realm of practical things. The world moves from one  
 miracle to another, and aeronautics is gradually being  
 brought down from the sphere of mist and cloud to that of  
 practice.

"If Count Zeppelin accomplishes in 100 trials what a great  
 many think should be accomplished in the first, he will have  
 achieved much, and will be entitled to the gratitude of man-  
 kind."

A Glasgow man has in his garden what he calls a "tree  
 clock." Fir trees are planted in such positions that one of  
 them will shade a portion of the house at every hour of sun-  
 light. For example, at 9 o'clock in the morning the "9  
 o'clock tree" shades the dining room, while as the sunlight  
 changes the "10 o'clock tree" shades the room above or the  
 room adjoining it, and so on through the day. On a sunny  
 day this "tree clock" insures a succession of shady places  
 around the house.—Ex.

**CHANGE OF SUPERINTENDENTS.**

The Lorain Daily Times gives us the following particulars  
 of a very pleasing and gratifying presentation to a worthy  
 and respected citizen:

"W. W. Watterson, the retiring superintendent of the  
 Lorain shipyard, was called to the Magnolia club rooms on  
 Monday night and given a beautiful and costly watch charm  
 and ring. The presentation was made by Edward Rowley  
 who reviewed the two years' work of Mr. Watterson among  
 the men. "Two years ago," he said, "we had a dread of  
 the new man who was to come among us, but we have found  
 him to be by his general disposition, by his kind and manly  
 ways, a man among men. Our relations to him have been  
 as man to man not as superintendent to employes. We have  
 grown to love him and now he is about to leave us. On the  
 part of the employes of the American Ship Building Co., I  
 am asked to present to you, Mr. Watterson, this gift that  
 we would have you prize not for its intrinsic value, but for  
 the esteem that prompts the giving."

Mr. Watterson had had an intimation that something was  
 coming, but the kind words more than the gift unnerved  
 him. He tried to reply but his eyes filled with tears, his  
 voice failed him and he asked a friend, H. P. Watson, to  
 read a brief response which he had prepared.

This was as follows: Fellow workmen I can hardly find  
 sufficient words to convey my feelings to you for your kind-  
 ness to me now and during the past few years that I have  
 spent here with you. I have tried to do my duty to my em-  
 ployers and make this yard successful and I have done my  
 best to make you all feel satisfied and that I was and am  
 your friend.

I am going away now and may never return to this town,  
 may never see you again, but the memory of this moment  
 and your kindness to me in the past will also be a pleasant  
 one.

The gifts you have made me I accept as a token of your  
 friendly feeling for me. I will always treasure them as the  
 most valuable treasures I possess.

What success I have had here has been very largely due  
 to your efforts, and I appreciate them and your kindness to  
 me. Possibly some of you have considered me a hard task-  
 master, but let me say that I consider every man and boy in  
 Lorain shipyard my personal friend and it grieves me to  
 leave you. One request I have to make, and that is that  
 you will serve your new superintendent faithfully, do all  
 you can for him and earn his highest respect and esteem as  
 you have done mine.

There followed a handshaking and hearty goodbyes and  
 well wishes as the superintendent and his former workmen  
 parted.

The charm presented is a beautiful one set with diamonds.  
 It opens up into three parts, displaying the Knights Temp-  
 lar and 32d degree emblems. The ring was of heavy gold  
 with a diamond set.

Mr. Watterson expresses sincere regret at leaving Lorain  
 and his friends in and out of the shipyard, but his regret is  
 no more sincere than is that of his friends who are to lose  
 him during his service in Buffalo for the same company.

We may add that Mr. Robert Wallace, one of the principal  
 stockholders of the American Ship Building Co., holds  
 Watterson in the highest esteem.

RANKINE in his "Steam Engine" bases his calculations of  
 results with forced draft on an air supply of only eighteen  
 pounds of air per pound of coal, while those upon chimney  
 draft are based upon twenty-four pounds, and then remarks  
 that "with a forced draft there is less air required for dilu-  
 tion, consequently a higher temperature of the fire, conse-  
 quently a better economy of heat than there is with the  
 chimney draft." So also D. K. Clark, in his work on the  
 same subject, states that "the system of forced draft opens  
 the way for increase of efficiency in facilitating the adoption  
 of grates of diminished area in combination with acceleration  
 of combustion."

In the presence of a crowd of about 200 persons the corner  
 stone for a flying machine factory to manufacture airships  
 on the Carl Dryden Browne patent was formally laid last  
 Sunday at the Freedom Labor Colony, a socialist settle-  
 ment eighteen miles northwest of Fort Scott, Kan. The  
 corner stone was laid close to the little cabin occupied by  
 Carl Browne and his wife, the daughter of Gen. Coxey, who  
 is now rich, but has disinherited her for marrying Browne.  
 The proposed factory is for the construction of an experi-  
 mental machine of such proportions that the scientific prin-  
 ciples of the invention may apply.



## AN EMERGENCY BOAT.

(ILLUSTRATED).

Capt. D. S. Webster, 33 Metropolitan Block, Chicago, has invented and patented the boat herewith illustrated.

The patent on this boat has been allowed and letters patent will soon issue from the patent office. A short description will aid our readers to understand the illustrations. The boat is constructed principally of canvas cemented together in two, three or four ply thickness, by a rubber cement, in a similar manner to what is known as canvas and rubber hose.

The Air Floats (1) are inflated with an air pump when required for use. These floats are four in number and are joined together by bands constructed of material of the same composition as the floats. When used at sea, fresh water is carried within the floats in flexible reservoirs. These water reservoirs when compressed by the air pressure that inflates the Air Floats (1) will discharge their contents through the Faucet, (17) see Figure 2. Any kind of liquid, such as stimulants for an emergency, can be carried within the reservoir.

To strengthen and give stability fore and aft, sister keelsons, (2) are used. They are constructed of galvanized iron and made in a form as to fit between two adjacent air floats, their top surface making a part of the boat's deck. They are hollow and provisions can be stowed within by removing the hand hole plates, (7). The frame work, (3) is constructed

## BUFFALO HARBOR'S IMMEDIATE NEED.

While much is expected for Buffalo as a manufacturing center in the near future, her commercial importance should be assiduously fostered, and if possible perpetuated. One of the greatest ports of the world as measured by the tonnage which annually goes in and out, this position of eminence may be maintained against all competition if our citizens are true to Buffalo's interests and their own. As the gateway of the grand water route between the West and the East, the city has been wonderfully favored by nature, and in the past has held its supremacy without especial effort. Conditions have, however, within a comparatively brief time widely changed. Human art and industry have been required in the later years to supplement the work of nature by improving and deepening channels all the way from Lake Superior to Niagara river, in order to accommodate the growth of ships to meet the vastly increased demands of commerce. Many of these vessels are of ten times the average tonnage of the lake craft of twenty-five years ago, necessitating deeper water in all channels and harbors, and increased harbor room and dockage.

Much has already been done here. In time we shall have an outer harbor of almost incomparable excellence, with long stretches of piers for vessels of every class; but that day is yet so distant that unless our narrow Buffalo river and Blackwell canal are kept navigable for the largest hulls, business will with difficulty be retained on the water route.

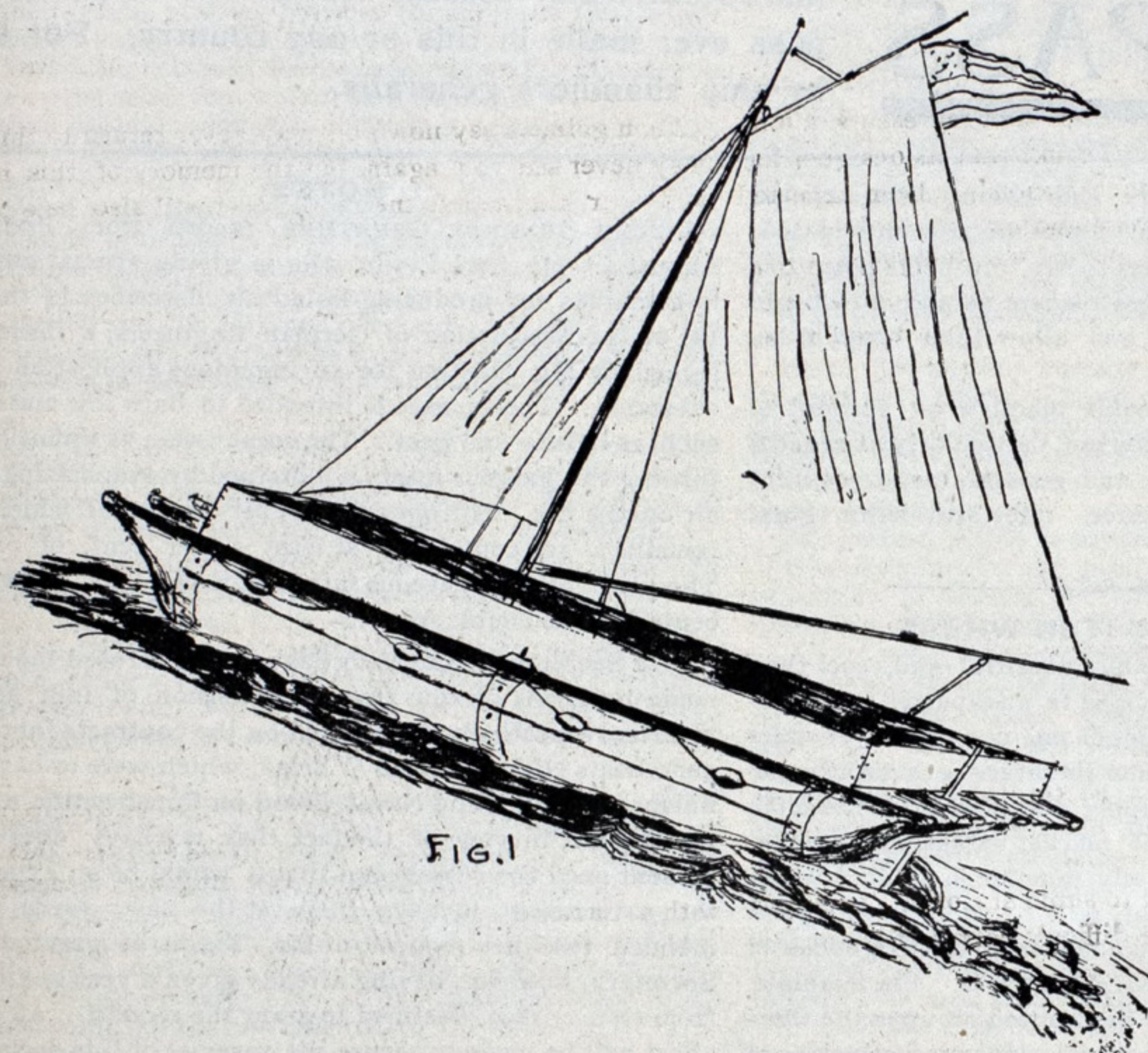


FIG. 1

of wood and is secured to the sister keelsons, (2), by bolts and nuts, which will allow of the boat being readily taken apart, deflated and stowed away in a comparatively small space. It is thought this feature in the construction will make the boat very acceptable to yachtsmen and hunters, and to all others where economy in storage space is considered an object.

The valve stem (10) is used to attach the air pump when the air floats are being inflated. The boat is shown in perspective in Fig. 1 and is provided with mast, sail and rudder ready for sea. She has also bulwarks which are constructed of canvas placed upon an iron frame. They are hinged to the frame-work (3) and can be lowered upon the deck when not in use. When in use they are secured by lacing at the corners. It is intended that the boat shall be lowered from the davits with falls in the usual way when required for use. The boat is provided with life-lines and floats. It can be propelled by oars or sails, and can be carried on board ship inflated, ready for use, or deflated. When in the latter condition it requires but one-half of the storage space usually occupied by similar constructed life-saving apparatus. When deflated it can be readily taken apart, stopped up and stowed in a small space between decks.

ENGINEER Charles Kimball, assistant lightkeeper at Menominee, has been promoted to be the first assistant at Chicago. He will be succeeded on November 1 by Guy Stevenson, now keeper of the South Manitou lighthouse.

Serious complaints are made of the insufficiency of depth. Vessels daily ground, and the larger ones cannot approach some of the wharves. This kind of evil can be averted, and should be without any delay. The dredging will cost considerable, but the city must do its share to supplement the liberal amount of work done and being done by the State and Nation to better our harbor facilities. The situation has been represented to the Common Council in its full seriousness. That body should promptly act.—Buffalo Courier.

At a recent special meeting of the stockholders of the Galveston Wharf Co., there was a good representation, over 17,000 shares out of a little more than 20,000 shares being represented. The proposition to borrow \$400,000 for four years at a rate not exceeding 6 per cent. the money to be used in the rehabilitation of the property, was carried unanimously. The proposition carries with it a time limit of four years, and is to be paid at the rate of \$100,000 annually.

MR. JOHN W. GUIDER, who has earned a reputation by superintending the floating of twelve sunken vessels for the Russian Government during recent years, and his successful wrecking operations on the coast and lakes, has undertaken the work of raising the steamer Macedonia, which was sunk by collision off Seabright, N. J., some time ago. Several unsuccessful effort have been made to raise her, but Mr. Guider is very sanguine of floating her. A wrecking tug was at work on the sunken steamer on Oct. 11.

## ABOUT YACHTS AND ENGINES.

John E. Thropp & Sons Co., Trenton, New Jersey, builders of speed and pleasure yachts, marine, compound and triple-expansion engines, boilers, condensers, propeller wheels, shafts, and all in connection with fancy tonnage, have just issued a new illustrated catalogue.

The construction of steam yachts is likened somewhat to a watch, inasmuch to get the necessary running qualities one must have the best materials in the market, and the highest workmanship attainable; to this end the firm of John E. Thropp & Sons Co. have bent their energies.

The firm has its works most favorably situated for constructing and equipping all classes of steam yachts and vessels of the lighter draught, such as towboats, yachts, etc.

Its brass and iron foundries, together with a most modern machine and boiler shop, make it possible to turn out the very best work in a very short time.

To go into more detail would take up much space and time; but it is sufficient to add that the name of John E. Thropp & Sons Co. on any of its products is a sufficient guarantee for its superiority.

## THE AGE OF OYSTERS.

The oyster, at the commencement of its career, is so small that two millions would only occupy a square inch, says the Fishing Gazette. In six months each individual oyster is large enough to cover a quarter, and in twelve months a half dollar. The oyster is its own architect, and the shell grows as the fish inside grows, being never too small. It also bears its age upon its back, and it is easy to tell the age of an oyster by looking at its shell, as that of horses by looking at their teeth.

Everyone who has handled an oyster shell must have noticed the successive layers overlapping each other. These are technically termed "shots," and each one marks a year's growth, so that by counting them the age of the oyster can be determined.

Up to the time of its maturity—that is, when four years of age—the shots are regular and successive, but after that

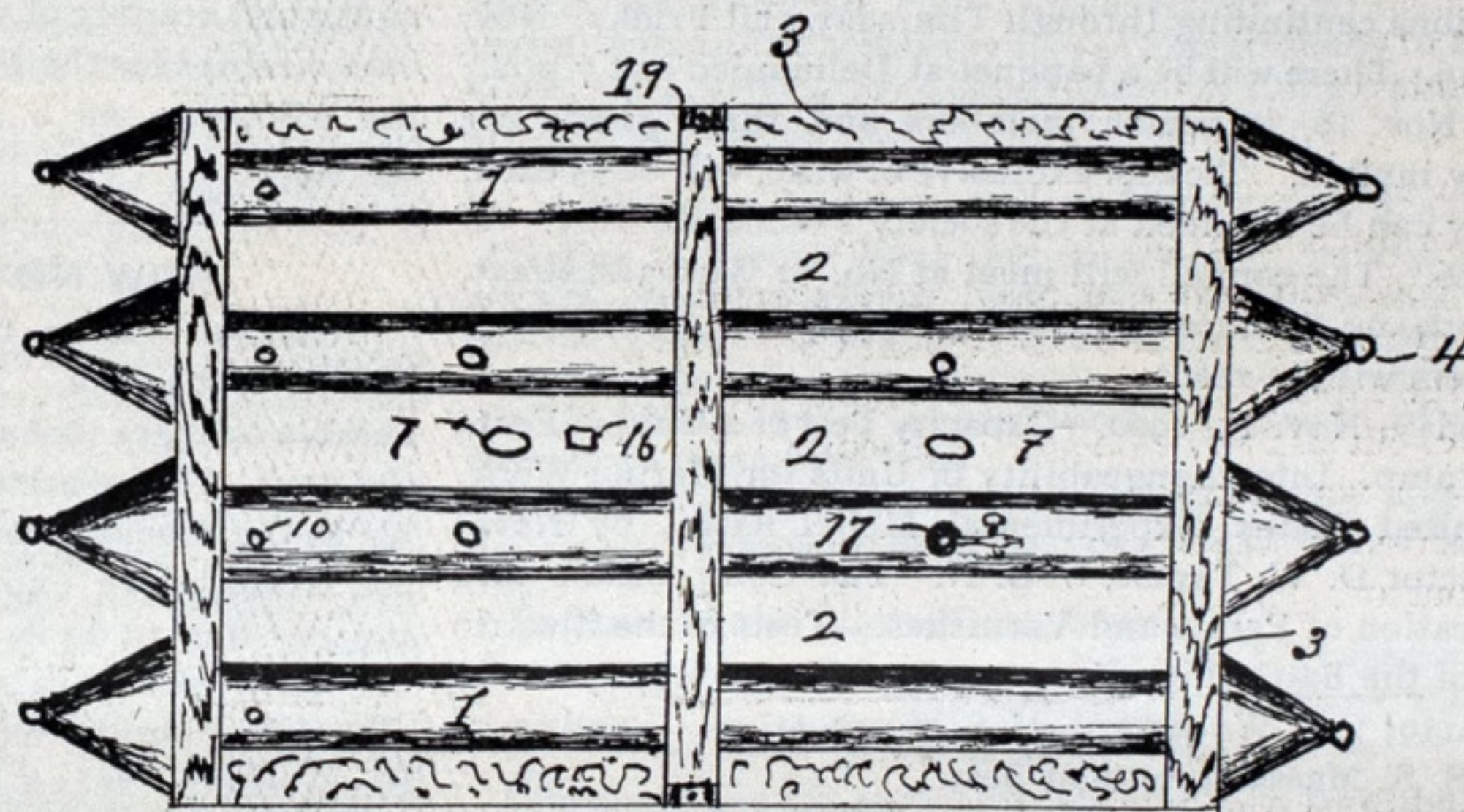


FIG. 2

time they become irregular, and are piled one upon another so that the shell grows bulky and thickened.

Fossil oysters have been seen of which each shell was nine inches thick, whence they may be guessed to be more than nine hundred years old. One million to two million oysters are produced by a single parent, and their scarcity may be accounted for by the fact that man is not the only oyster-eating animal. The starfish loves the oyster and preys upon it unceasingly. A variety of whelk is also very fond of young oysters, to get at which it bores right through the shell and sucks the fish up through the hole thus made.

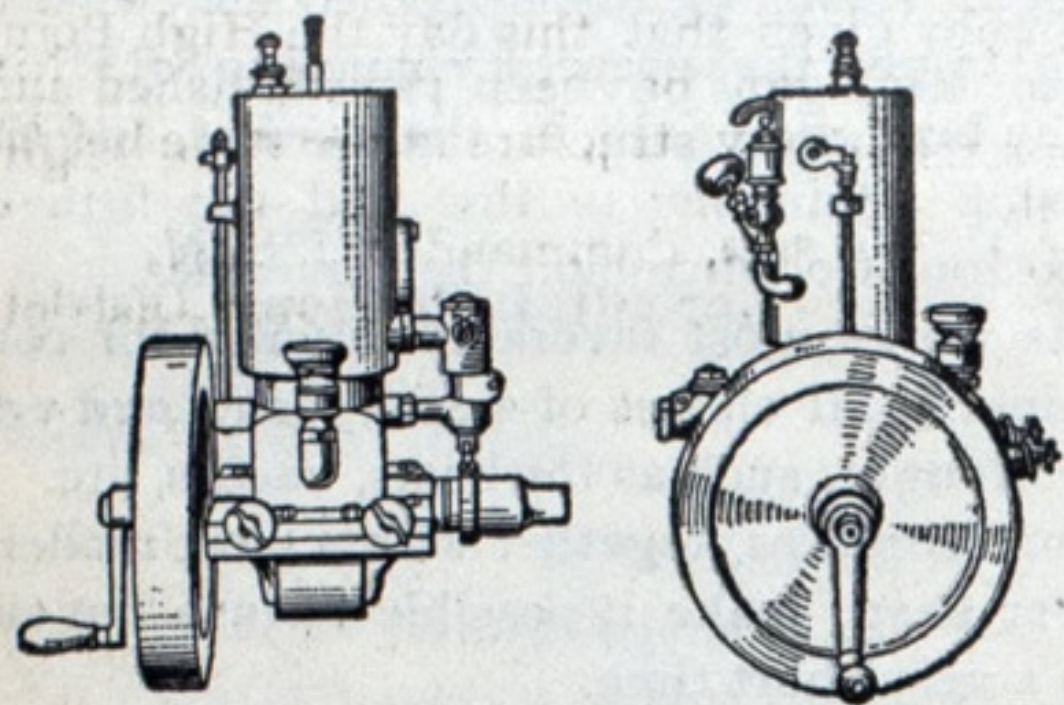
## THE PANAMA CANAL PROJECT.

In an interview this week Gen. Abbott, chief engineer of the Panama Canal Co., spoke as follows: "The Panama Canal Co., is waiting for the recommendation of the Walker commission to Congress and for the action of that body. I believe that the decision will be in favor of the Panama canal as being feasible, economical and giving better results. If the decision is against the Panama canal, the company will nevertheless go on building it. I believe that if both the Panama and Nicaragua canals are built, nine-tenths of the vessels will choose the Panama canal as being the better. What the Walker commission heard in Paris was a revelation to them. Already between three and four million cubic yards have been taken out down there and two-fifths of the work has been done."



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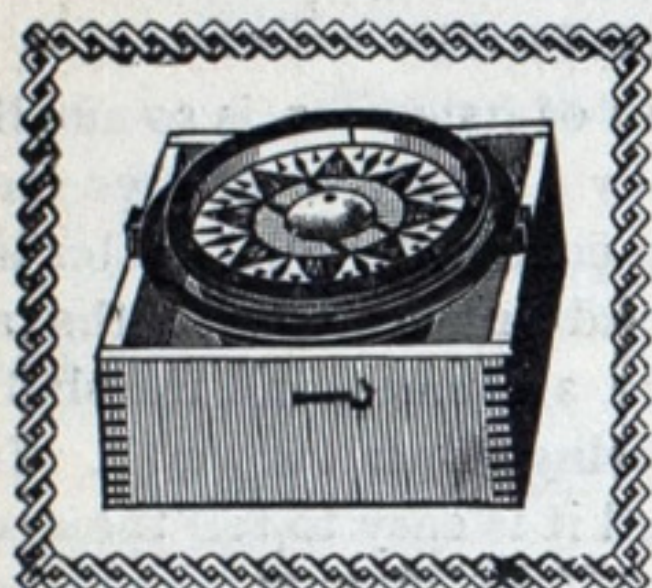
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### SOCIETY OF NAVAL ARCHITECTS.

The eighth general meeting of the Society of Naval Architects and Marine Engineers will take place in New York city, at 10 a. m., Thursday, November 15, 1900. Through the courtesy of the president and managers of the American Society of Mechanical Engineers, the meetings will be held in the auditorium of No. 12 West 31st street, the sessions continuing through Thursday and Friday, Nov. 15 and 16. There will be a banquet at Delmonico's at 7 p. m., Friday, Nov. 16, to which members and their guests are cordially invited. Tickets exclusive of wine, will be \$5 each, and they can be obtained at the society's office on Nov. 14, 15 and 16. The council will meet at No. 12 West 31st street, New York, on Wednesday, Nov. 14, at 3 p. m. The following papers will be read:

Thursday, Nov. 15, 1900.—Capacity Test of a Unique Form of Air Pump. Interchangeability of Units for Marine Work. The United States Experimental Model Basin, by Naval Constructor D. W. Taylor, U. S. N. The Composition and Classification of Paints and Varnishes. Tests of the Electric Plants of the Battleships Kearsarge and Kentucky, by Naval Constructor J. J. Woodward, U. S. N., member. Coaling of the U. S. S. Massachusetts at Sea.

Friday, Nov. 16, 1900.—Notes on Recent Improvements in Foreign Shipbuilding Plants, by Assistant Naval Constructor H. G. Gilmer, U. S. N. Can the American Shipbuilder under Present Conditions Compete with the British and German Shipbuilders in the Production of the Largest Class of Ocean Passenger and Freight Steamships? Classification Rules. Recent Designs of Battleships and Cruisers for the U. S. Navy, by Chief Constructor Philip Hichborn, U. S. N., vice-president. A Comparison of the Contract Prices of Our Naval Vessels. Launch of a Cruiser and a Battleship. The Safety of Torpedo-boats at Sea and in Action Under Various Conditions, by Naval Constructor Lloyd Bankson, U. S. N., member.

### EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., New York, report the weekly condition of the Eastern freight market as follows:

As owners have latterly been freely offering their tonnage and met the continued decline in our freight market, we can report an active week in fixtures, especially for grain, as declining rates appear to have brought shorts to cover, as well as enabled the transaction of fresh business. Shippers of coal meeting with little competition in their bids from other trades, have been quick to take advantage of this fact by reducing limits, in consequence of which, in spite of good enquiry, charters for coal have decreased of late. With the exception of some further fixtures from the Gulf, cotton charterers have withdrawn from the market, whilst the enquiry for timber has narrowed down quite considerably. Time charterers are now generally unwilling to pay over 6s.

on vessel's dead weight capacity; this having been acceded to by owners, fixtures below this figure are now anticipated. At the time of writing, we regret to say, prospects point to a further decline in freights unless owners should now begin to withdraw from the market and allow their boats to become prompt.

Business in sail tonnage remains inactive, on account of continued scarcity of vessels offering, particularly as regards case oil ships for the Far East and general cargo room for the colonies. As a consequence, rates still show great strength.

### HOW NOT TO DO IT IN WHEAT.

Nothing is more unreasonable, deceitful and cruel than the wheat markets. They delight in unexpected and inexcusable changes that rob its friends one day and its enemies the next. There are times when its future is as unfathomable as the deepest ocean. Supply and demand is the modest, conservative expression of market values, and disclosing just how to do it, but in daily practice is a blind leader of "how not to do it." Supply and demand is a popular theoretical phrase, but who can adapt it to the exigencies of the present? It is a good theory next year. For example, what level of prices can safely be counted on upon the theory and fact that stocks of wheat and flour on both sides of the ocean, October 1st, were 25,000,000 greater than Oct. 1st, 1899, and the world's crop 150,000,000 to 200,000,000 bushels less than then? We wait to hear from the dealers of wide as well as wise vision.—Toledo Daily Market Report.

Evidence of Bad Steering—The only evidence of bad steering of the R. being that of the mate of the C., who was in bed at the time of the maneuvers which caused the collision, that the R. was steering wildly, because she was sometimes astern of the C. and sometimes well off her port quarter, while the officers of the R. testified positively that they were alert, and constantly observing the tug ahead of them, and following her, and that they observed the signals given by the tug when she changed her course, the evidence is insufficient to show that the collision of the two vessels was caused by the negligence and bad steering of the R. The Ravenscourt; 102 Fed. Rep. (U. S.) 668.

Collision—Steam Navigation on Canal—Care Required.—A steam canal boat, with three other steel boats heavily laden in tow, was passing eastward through the Erie canal, and on rounding a bend, which obscured the view ahead, came in collision with a horse boat, which was proceeding westward, and which had passed over toward the berne bank, and stopped about 350 feet from the bend, to allow overtaking boats to pass her. Held, that the steam vessel was in fault for the collision in moving around the bend at such speed that she could not be stopped in such distance, and especially for failure to give any signal of her approach before entering the curve, which, though not required by any conventional rule, was required by custom, which should have been held obligatory. The Gamma, 103 Fed. Rep. (U. S.) 703.

### NOTES.

CONSUL-GENERAL GUENTHER reports from Frankfort, August 9: Mr. Carl Linde, who is giving special attention to machines for producing liquid air, describes in the journal of the Association of German Engineers, a furnace designed by Mr. Hempel for an ingenious application of this substance. The furnace is intended to burn low class fuels, such as lignite and peat. The combustion is intensified by turning the gaseous mixture obtained by evaporating liquid air on the fire. Nitrogen is first set free, after which there remains a gas containing at least 50 per cent. of oxygen. The price of this gaseous mixture is said not to exceed 81 cents for 1,000 cubic feet.

THE Secretary of the Navy has recently refused the request made by Lewis Nixon that an extension of four and five months, respectively, be granted on the contracts for the torpedo boats Nicholson and O'Brien, which were to have been finished Oct. 1. The Naval Board on Construction took up the matter, in view of the fact that the navy does not at present need the vessels and that it would be an expense to the government to keep them at the navy yards, recommended that the request of Mr. Nixon be granted. The Secretary, however, having already given a year's extension, from Oct. 1, 1899, declined to grant the request. An earnest effort will be made to secure the reversal of this decision, as it affects many builders.

NINTH annual convention of the Association of Railway Superintendents of Bridges and Buildings, Detroit, Mich., October 17 and 18, 1899. Discussion: "What is the most economical method of painting Railway Bridges and Buildings, and the best material to use." Mr. J. Y. Hill, road-master Southern Railway, Knoxville, Tenn., said: "Since I have been on the Southern Railway system I think I have used about five or six different kinds of paint for bridges. We have used Mexican Graphite, Superior Graphite, Dixon's Graphite, and are now using \*\*Paint. It seems to be the standard to use nothing but graphite on our road. About a year ago I ordered some paint, and our general superintendent furnished me with a barrel of Dixon's Silica-Graphite paint for testing. I painted a structure, an overhead bridge, where we have about 12 tracks running underneath, and are constantly switching night and day, which is a pretty severe test for any kind of paint. That paint has been on there one year now, and has given good satisfaction so far. I had about twenty gallons of this paint left; and where I am using \*\*Paint at present is on a bridge of ten spans. It takes about twenty-six gallons of \*\*Paint to a span, and I painted one span with Dixon's Graphite, which was the twenty gallons I had left, and I think there is a saving in Dixon's paint of about, well, 15 per cent.; and from my own observation I am very much in favor of that kind of paint. It covers better and leaves a well filled-in surface, as it ought to. I am very much pleased with Dixon's paint."



## HYDROGRAPHIC OFFICE NOTES.

**LAKE SUPERIOR—Western End—Magnetic Disturbances**  
—Caution—Local disturbances of the magnetic needle are known to exist, with more or less intensity, all along the north shore of Lake Superior from Magnet Island, Ontario, to Duluth. The tendency is to draw upward bound ships toward the north shore, and calls for increased vigilance from navigators.

Various reports received agree that Granite point or Knife island at the mouth of Knife river, Minnesota, is a place of great disturbance; one report stating that passing Knife island at the distance of a mile the north end of the needle is drawn from 15° to 18° to the east of the magnetic north, the duration of the disturbance being about 10 minutes, when the compasses gradually resume the customary direction. Similar disturbances of less force are reported from reliable sources along the north shore at Lister river, Split Rock, Pallasades, Petit Marais, Grand Marais and Pigeon Point.

At Magnet island the fluctuations assume greater dimensions, the needle being disturbed from 40° to 50° in close proximity to land.

It is recommended not to attempt, in thick weather, the passage between Edwards and Magnet islands, leading into Black bay, owing to the large and capricious deflections of the compass while in the vicinity of the latter.

It is stated that a ship steering the correct magnetic course from Devil's island to Duluth, will, if no attention is paid to local attraction, or if in thick weather the lead is neglected, run on shore between Two Harbors and Duluth. In the vicinity of Two Harbors the deflection of the needle becomes very great.

An experienced captain recommends that "Ships bound from Devils island or Sand island to Duluth, do well to shape their course midway between the lights at the Duluth and Superior entrances; this ensures safety, counteracts the deflection of the compass needle, and before the distance is run one or the other fog whistle will be heard."

Another captain remarks: "Taking a departure from Devils Island to Duluth in thick weather, I run on the correct magnetic course 40 statute miles, when Two Harbors bears about NW., and get soundings; the depth of these gives reliable information as to the distance from shore. If fifty fathoms or less is obtained, I am well to the southward and may keep on with due precaution. If the depth found is between 60 and 100 fathoms, or more, the ship is to the northward, and the course has to be directed to port, and great caution is necessary until the Duluth fog whistle is heard."

**NOTE.**—Mr. L. M. Stoddard, master of the U. S. light-house tender Amaranth, reports that in making the course from Marquette to Point au Sable he found an average of about 0° 30' westerly variation instead of 1° 30' easterly.

**LAKE SUPERIOR.**—Apostle Islands—Reported Shoal off west side of Outer Island.—Information dated September 12, 1900, has been received from the U. S. Light-House Board that Mr. L. M. Stoddard, master of the light house tender Amaranth, reports the existence of a shoal, with 5 fathoms of water over it and 18 to 20 fathoms around, about 1½ (1¼) miles due west from the center of the west shore of the outer island.

**LAKE HURON.**—Shoal northeastward of Sturgeon Point Lighthouse—Presque Isle harbor entrance—Sand bar on range line.—Information dated September 12, 1900, has been received from the Light-House Board that Mr. L. M. Stoddard, master of the lighthouse tender Amaranth, reports the existence of an uncharted rocky reef about 100 feet wide extending in a north and south direction with a least depth found of 18 feet of water over it, in a position from which Sturgeon point lighthouse bears S. 34° W. true (S.W. ¾ S. mag.), distant about 3½ (4) miles.

Also, that a sand bar with 14 feet of water on it has formed

off the entrance to Presque Isle harbor, directly on the harbor range line and 1½ (1¼) miles from the front light.

**ST. CLAIR RIVER.**—Port Huron—Dangerous sunken wrecks.—The schooner John Martin, ore laden, sunk by collision with the steamer Yuma, in the channel abreast of Port Huron, September 21, 1900, lies about 1,100 feet below the Fontana wreck in about 60 feet of water, close to westward of Gratiot range line. Mariners are cautioned accordingly.

**LAKE ERIE.**—Detroit river approach—Amended position of reported obstruction off Monroe.—With reference to Notice to Mariners No. 35 (955) of 1900, information has been received from Capt. W. P. Benham, of the steamer Ravenscraig, that August 17, 1900, the ship, drawing 17 feet of water, rubbed over some obstruction in a position east of Monroe, and about 10½ (12) miles N. 40° 45' E. true (N.E. ¾ N. Mag.) from Maumee straight channel entrance gas buoy No. 1.

**NOTE.**—The general opinion seems to be that this obstruction is a sunken wreck.

**LAKE ONTARIO.**—East Charity and South Charity shoals.—The following information received through the Light-House Board has been furnished by Bridadier General John M. Wilson, Chief of Engineers, U. S. army:

South Charity and East Charity shoals, lower part of Lake Ontario, were surveyed August 22-30, 1900. Both shoals consist of rocky ledges, and in their shallowest parts are covered with large boulders.

East Charity shoal has a least depth of 8 feet at extreme low water, and there is a considerable area with water 10 to 18 feet deep at the same stage. Between the 18-foot curves it has an extreme length of about 2,000 feet and extreme width of about 700 feet. Between the 14-foot curves an extreme length of about 1,600 feet and an extreme width of about 200 feet. The least depths are found near the lower or northeastern end of the shoal.

East Charity shoal is in latitude 44° 02' 13" N., longitude 76° 29' 04" W.

South Charity shoal has a least depth of 10½ feet at extreme low water. Between the 18-foot curves it has an extreme length of about 2,000 feet and an extreme width of about 100 feet. Between the 14-foot curves an extreme length of about 300 feet and an extreme width of about 50 feet. This shoal is a narrow ridge of rock and is situated in latitude 44° 01' 50" N., longitude 76° 30' 08" W.

Both shoals extend generally in a northeasterly and southwesterly direction.

**LAKE SUPERIOR.**—Portage Lake ship canal entrance—Caution as to lights.—Captain B. F. Howard, of the steamer Bon Voyage, reports that the lights at the Lake Superior entrance to the Portage Lake ship canal when in range lead on to the eastern extremity of the western breakwater, now nearly finished.

The lantern which is supposed to be shown from the end of this structure by the contractor cannot be depended on, especially in stormy weather, therefore great caution is necessary when entering this port at night.

**Maritime Liens—Damages for Breach of Charter—Estoppel by Settlement.**—While a steamship was under a time charter to the libellant, she became stranded, and received injuries which subsequently made it necessary for her to be docked for repairs, after which libellant resumed his use of her under the charter. In the next settlement he claimed and was allowed a deduction for the time lost in making repairs. He made subsequent payments from time to time under the charter, and on its termination made a final settlement with the owners, no claim for further damages having been made on account of the injury. Held, that he was estopped by such settlements from subsequently asserting a lien upon the vessel for such further damages after her sale to a bona fide purchaser with no notice of libellant's claim. The Thornley, 103 Fed. Rep. (U. S.) 686.

## NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,  
OFFICE OF THE LIGHT-HOUSE INSPECTOR, 11TH DIST.,  
DETROIT, MICH., October 18, 1900.

Information is hereby given that the first-class and third-class can buoys off Pointe Abbaye, Lake Superior, have been replaced by winter markers.

Information is hereby given that this day the High Point light, Portage Lake, Michigan, has been re-established and is now shown from a temporary structure at the same height above the lake level.

J. C. WILSON, Commander U. S. N.  
Inspector 11th Light-House District.

UNITED STATES OF AMERICA—NORTHERN LAKES AND  
RIVERS—WISCONSIN.

TREASURY DEPARTMENT,  
OFFICE OF THE LIGHT-HOUSE BOARD,  
WASHINGTON D. C. October 19, 1900.

LAKE MICHIGAN, GREEN BAY, ETC., BUOYAGE.

Notice is hereby given that the work of changing the iron buoys in the Ninth Light-House District, for the winter, to spar buoys, similarly painted, will begin on the dates below.

Gas-lighted buoys, entrance to Fox river, Green Bay, Wisconsin, November 7.

Gas-lighted, bell and iron buoys in Green Bay, channels between Lake Michigan and Green Bay, on Wiggins Point shoal, and in Sturgeon Bay, Wisconsin and Michigan, November 8.

Gas-lighted buoys, Fox Island and Rush shoal buoys, Lake Michigan, Michigan, November 12.

Mackinac Straits, (west of old Mackinac light-station) and channels north and east of Beaver Island group, Michigan, November 15.

Off Sheboygan, Wisconsin, November 17.

Off Milwaukee and Racine, Wisconsin, November 21.

Off Chicago, Illinois, November 28.

## HIGH POINT BEACON LIGHT STATION.

Notice is hereby given that on the morning of October 11, 1900, the structure from which the fixed white post-lantern light was shown at this station, at High Point, easterly side of Portage river, was destroyed by fire.

The light will be re-established as soon as practicable.

**WHITEFISH POINT LIGHT STATION.**—Notice is hereby given that on October 12, 1900, the characteristic of the light station, on Whitefish Point, southeasterly part of Lake Superior, and on the southerly side of the entrance to the head of St. Mary's river, was changed from flashing white every 5 seconds to flashing white every 10 seconds.

## SHEBOYGAN BREAKWATER BEACON LIGHT STATION.

Notice is hereby given that on or about October 25, 1900, a fixed red lens-lantern light will be established at the southerly end of Sheboygan breakwater, Sheboygan Harbor, westerly side of Lake Michigan. The light will be suspended from a brown, wooden post, at a height of about 30 feet above mean lake level.

Immediately in front of the lake side of the post there is a V-shaped timber protection 6 feet high and 18 feet each way.

By order of the Light-House Board.

FRANCIS J. HIGGINSON,  
Rear Admiral, U. S. Navy, Chairman.

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LA SALLE & CO., Board of Trade Building, Duluth, Minn.

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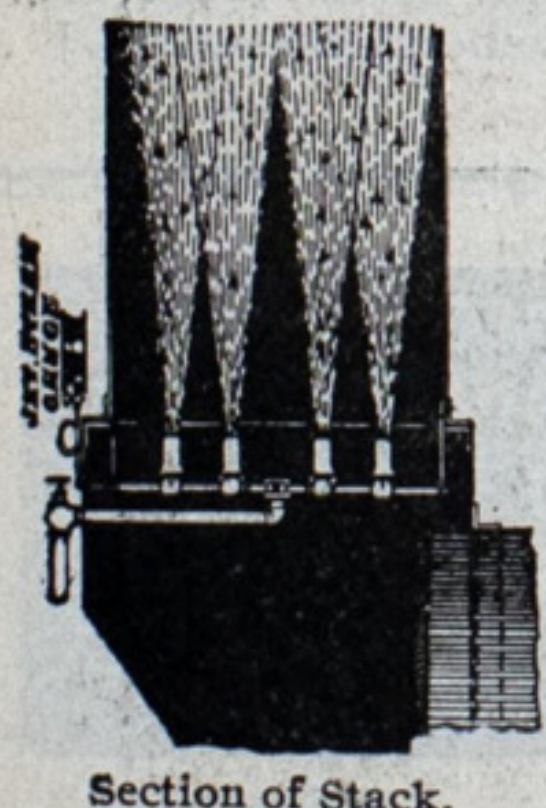
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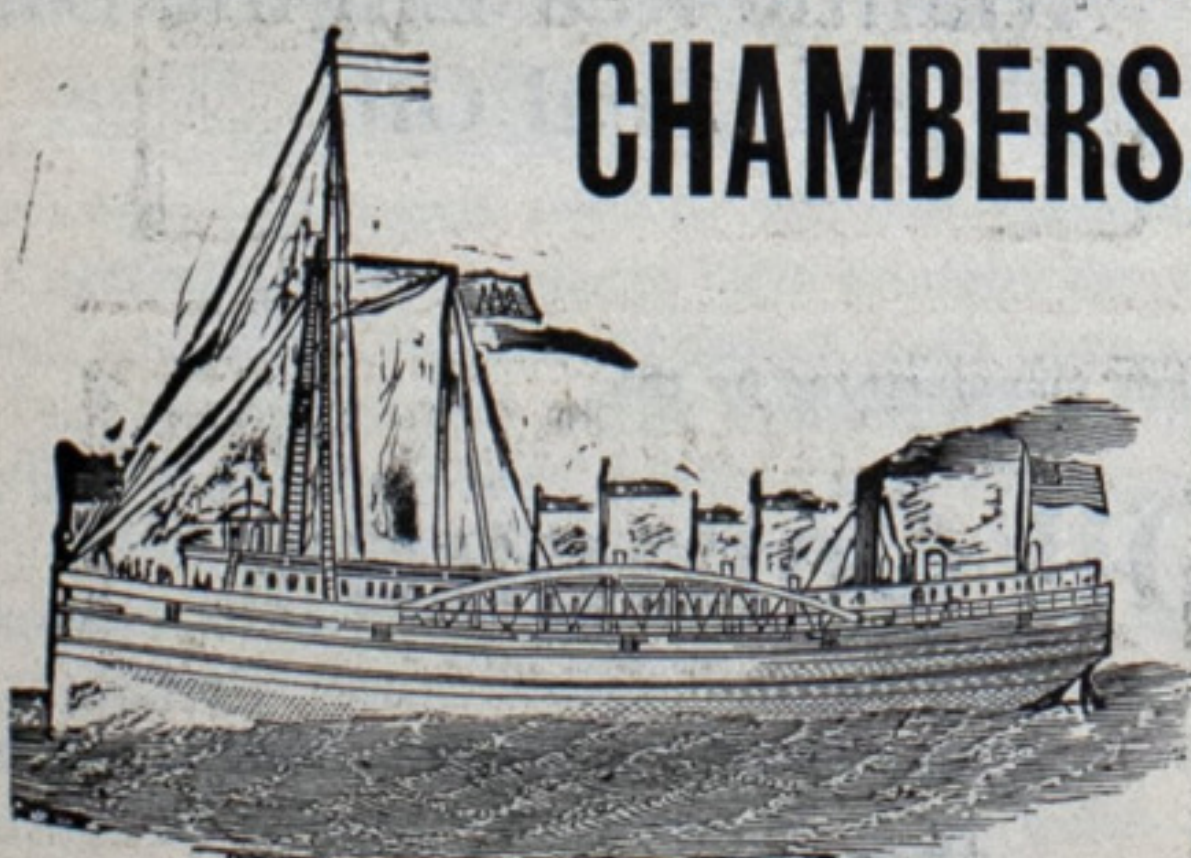
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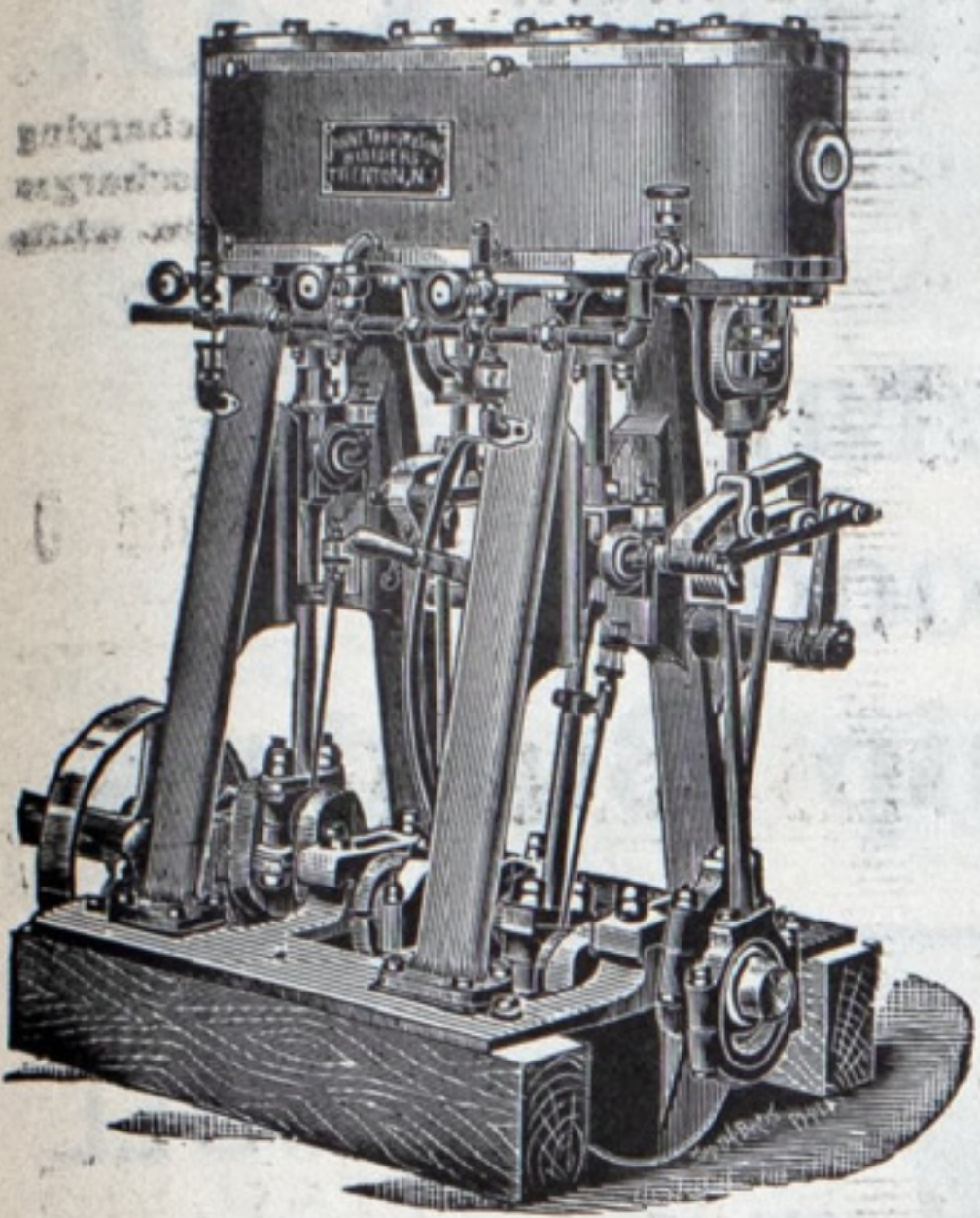
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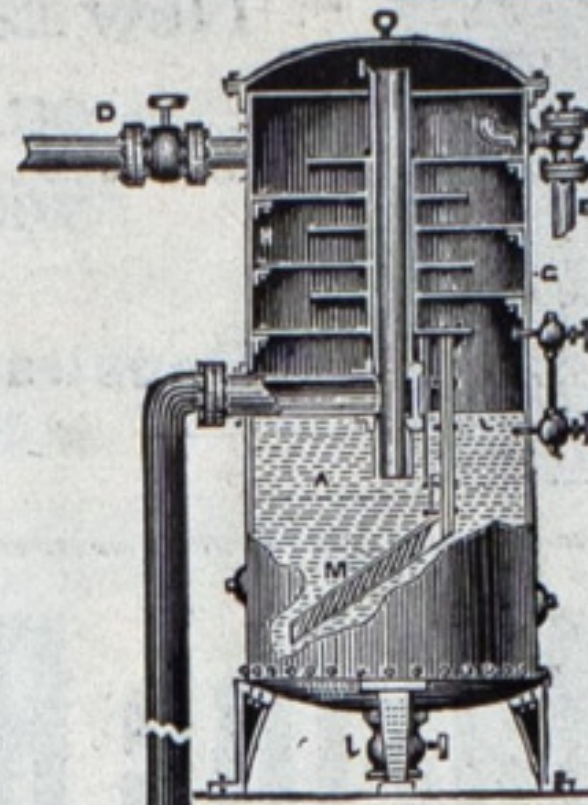
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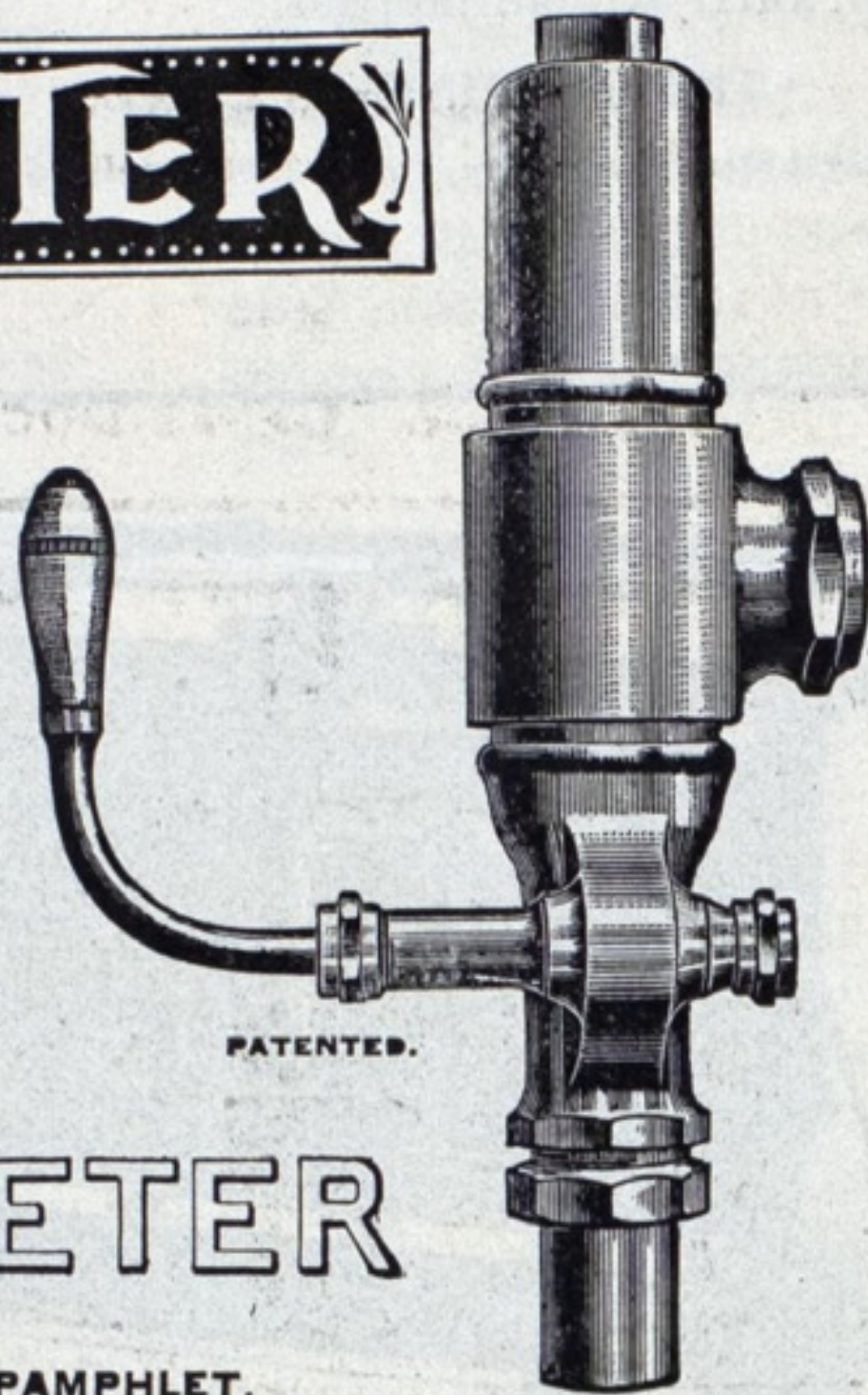
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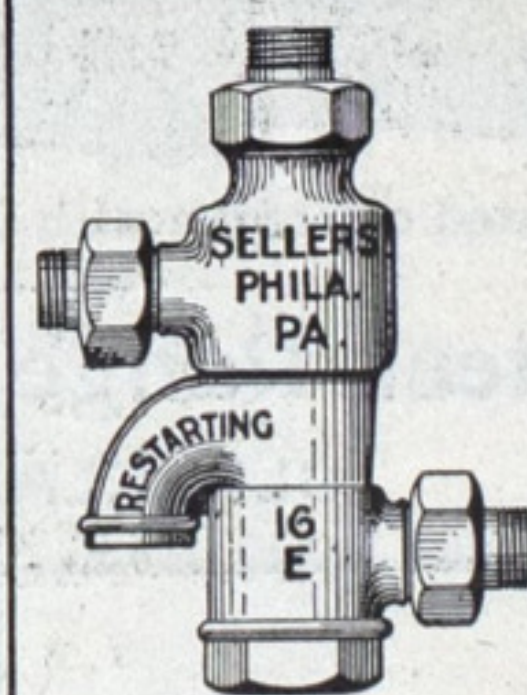
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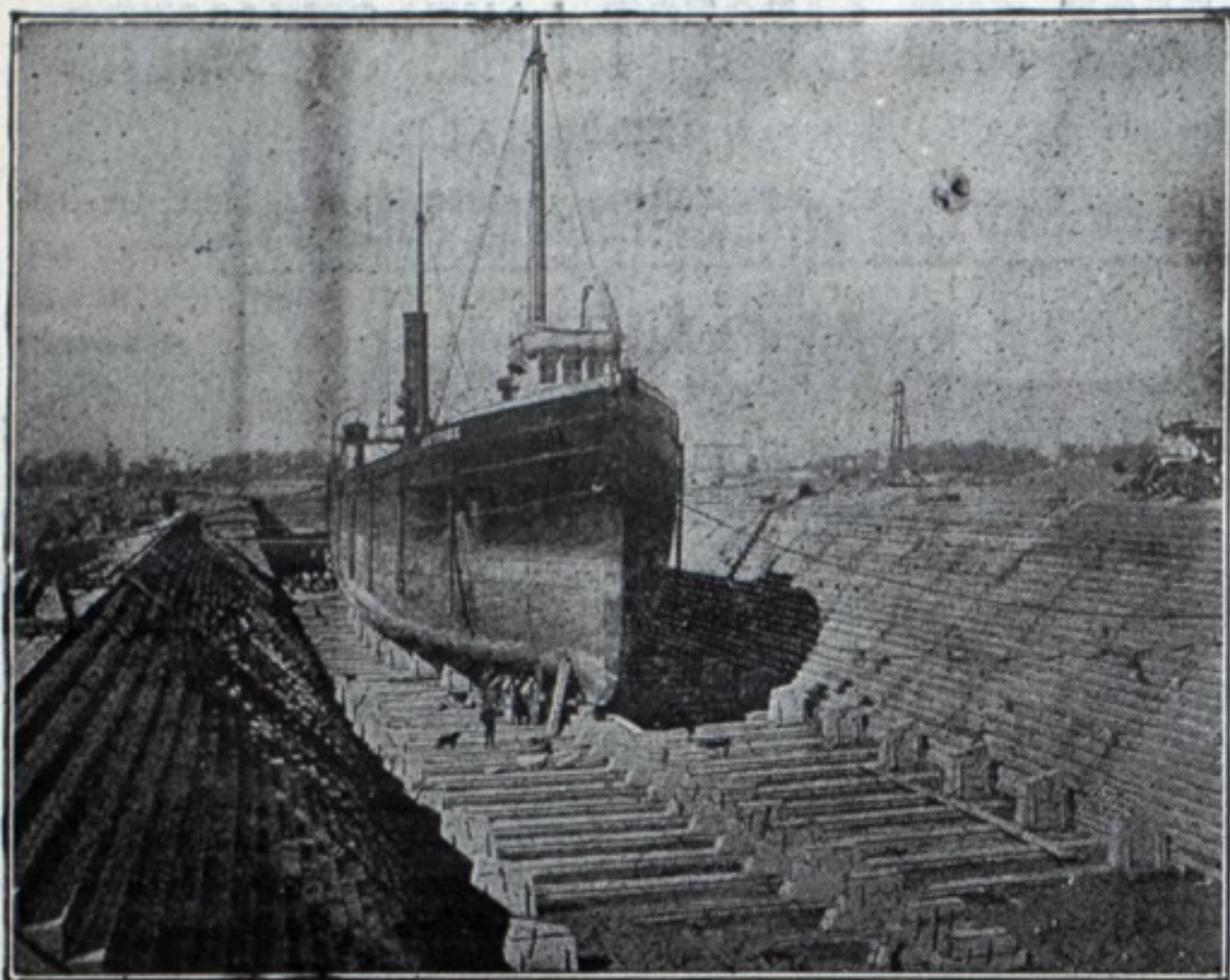
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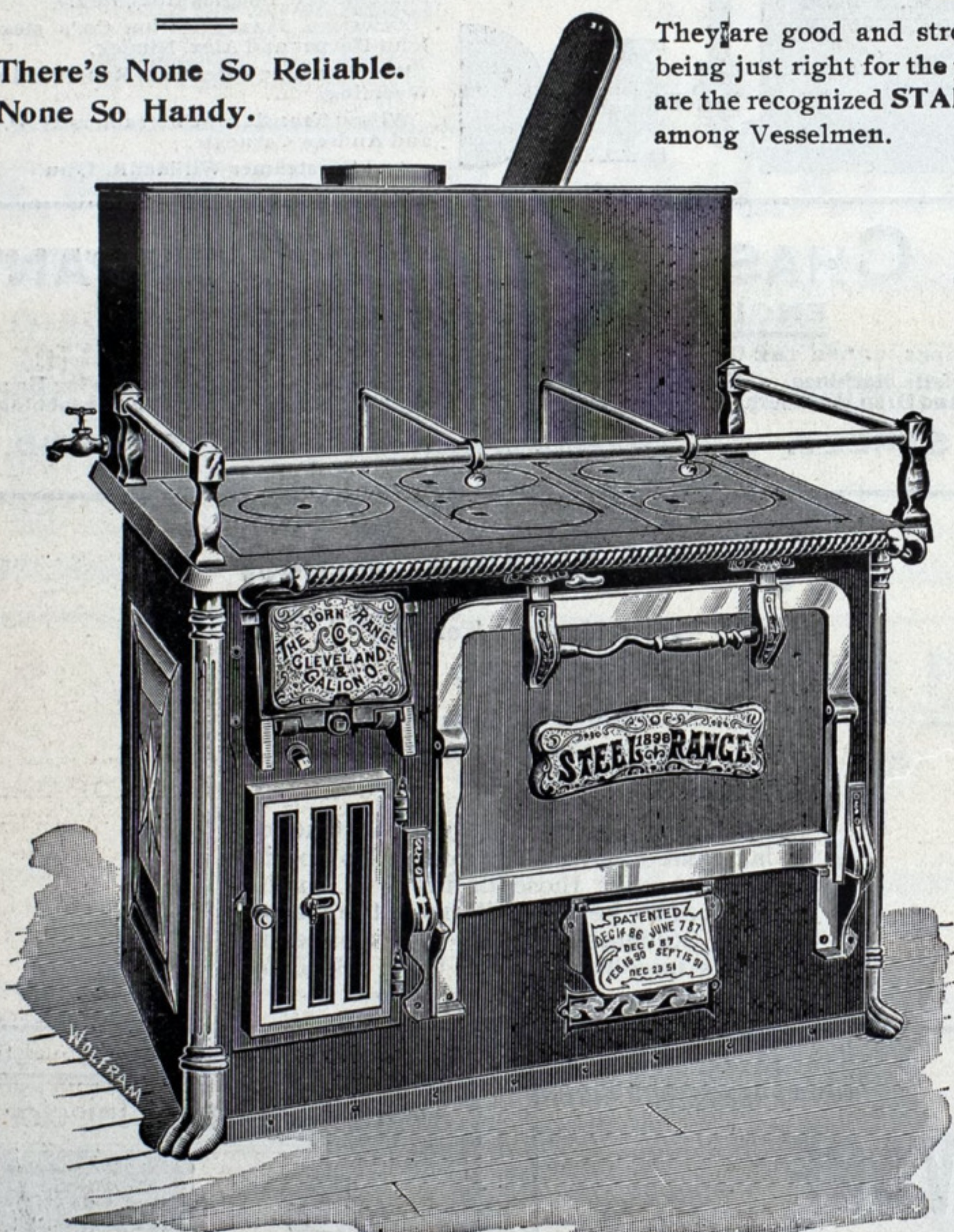
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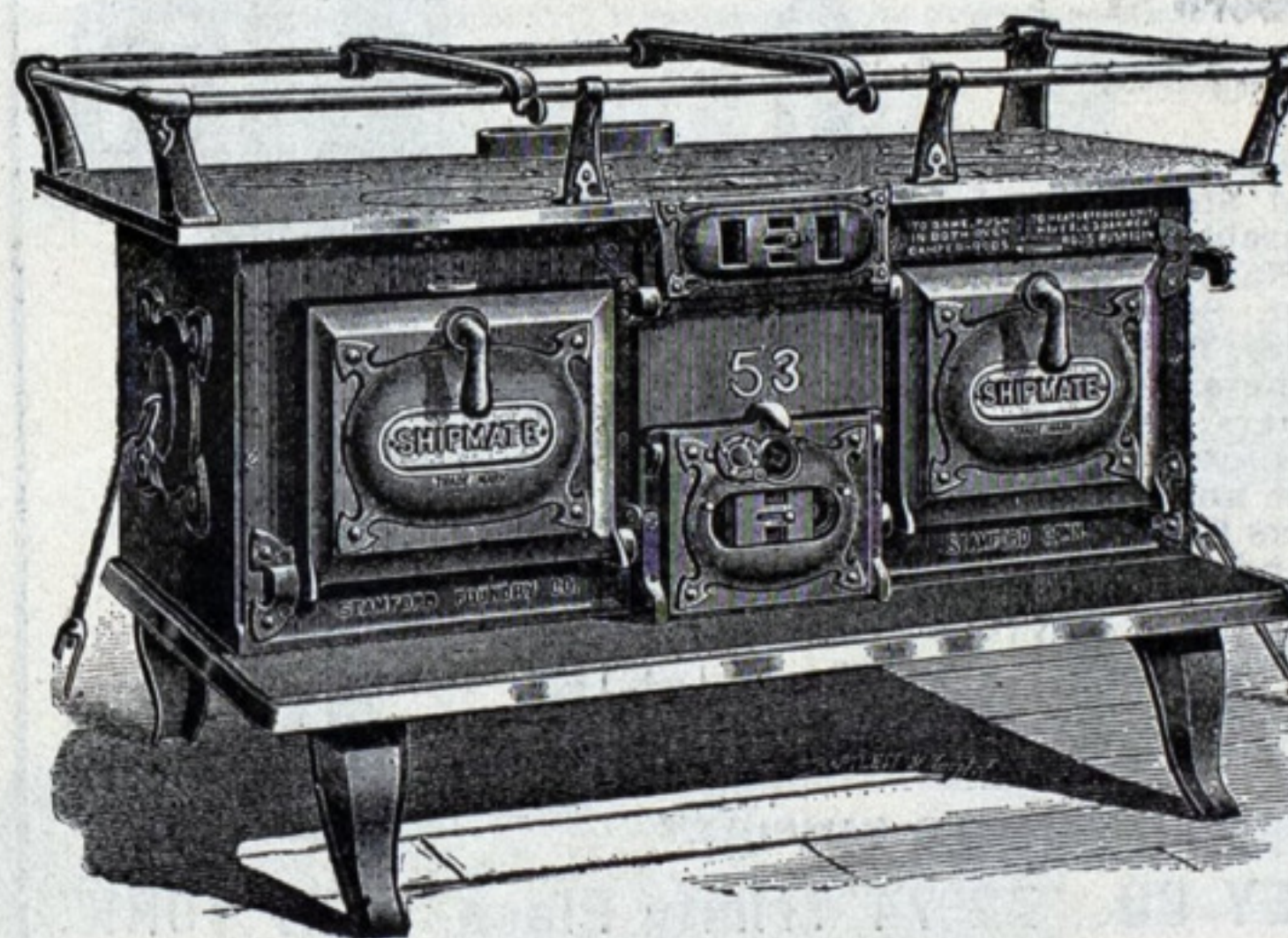


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